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MIND AND BODY

MIND AND BODY

By HANS DRIESCH

Authorized Translation
by THEODORE BESTERMAN

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TRANSLATOR'S NOTE

As a glance at the Bibliography at the end of this volume will show, Dr. Driesch's friendship with the English-speaking countries is of long standing. Over thirty years ago (see No. 45) he was specially reporting English research work in the *Archiv für Entwickelungsmechanik der Organismen;* since then he has delivered many lectures in Great Britain and the United States, including his famous Gifford Lectures for 1907—1908 on *The Science and Philosophy of the Organism;* and last year he was elected President of the Society for Physical Research,[1] the first German in that distinguished succession.

This long friendship should earn a particularly warm welcome for a translation of one of Dr. Driesch's best-known and most valuable works. The text is substantially that of the third German edition; but Dr. Driesch, by his very careful revision of my translation, in which he rewrote, omitted, and added a few passages, and

[1] Dr. Driesch has since been re-elected as President for the present year.

UNITED THEOLOGICAL SEMINARY

made many verbal alterations, has in effect made this into a new edition. I am also indebted to Dr. Driesch for checking the Bibliography and for sending me particulars of a few items overlooked by me.

As is well-known, it is not always easy to get an exact English equivalent for German psychological terms. In the present translation the greatest difficulty has been caused by Dr. Driesch's constant use of "bewusst-haben" in various tenses. He desires to convey by this term the art of "consciously having something;" but as this phrase is rather cumbersome when constantly used, the publishers have thought it preferable that I should use a variety of periphrases to get the same emphasis in English. In general, technical terms of psychology and philosophy have been as far as possible avoided.

Th. B.

London
6th June 1927

PREFACE TO THE AMERICAN EDITION

This translation corresponds to the second and third edition of "Leib und Seele." A few paragraphs have been cancelled and a few additions have been made.

I should like to call the attention of American readers to the "behavioristic" part of the book, behaviorism being so much in fashion in America at the present day. Part IV, the Analysis of Action, is, in fact, throughout "behavioristic"; with the result, however, that such an analysis leads directly to a *vitalistic* conception of life.

Behaviorism is a very sound and good *method,* but it must *not* be taken as a "theory" of the mechanistic kind. Methods stand beyond any theory. Behaviorism as a mechanistic theory is pure dogmatism, and dogmatism is the greatest handicap to the advancement of knowledge.

Part V of this little book brings forth an idea which seems to me to be new—and decisive.

PREFACE TO AMERICAN EDITION

I hope that this book may help—together with my "Crisis in Psychology"—to bring American Psychology, so well developed along experimental lines, upon a truly philosophical platform. For, if I may be allowed to vary a famous dictum of Kant: Philosophy without Psychology is bare and empty, Psychology without Philosophy is blind.

HANS DRIESCH

Leipsic
12th June 1927

PREFACE TO THE FIRST EDITION

The object of this book is to examine along logical lines the possibility of the theory of psychophysical parallelism. In other words, it proposes to discover whether or not the ordered and "logical" structure of the psychical and the physical states will permit this theory to be adopted. The examination will be complete in the sense that during its course there will be mentioned all the arguments and counter-arguments which have occurred to others and to myself; but only those will be closely examined which are new or which are very significant. Such supplementary information as the reader may require he can find in the substantial and well-known work by Ludwig Busse, *Geist und Körper, Seele und Leib* (Leipzig, 1903 [2nd edition, Leipzig, 1913]), and in R. Eisler's *Leib und Seele* (1906), B. Erdmann's *Wissenschaftlichen Hypothesen über Leib und Seele* (Cologne, 1908), and Arnold Klein's *Die modernen Theorien über das allgemeine Verhältnis von Leib und Seele*

(Breslau, 1906); the works of E. Becher, W. McDougall, and others are referred to in the text.

In this book the parallelistic theory will be refuted, as I believe, on very good grounds. What follows from such a refutation, and, in particular, from psychophysical "interaction," is beyond the scope of our investigation. The reader who seeks further enlightenment in this connection may be directed to the second volume of my *The Science and Philosophy of the Organism* (London, 1908 [2nd German edition, *Philosophie des Organischen,* Leipzig, 1921]), for at this point the fundamental problem of psychophysics merges into that of biology.

Part V of this book, which introduces a new, and to my mind a decisive, conception into the discussion of the psychophysical problem, was originally intended to be delivered in London before the International Congress of Philosophy in 1915. In its outlines it was incorporated into an address on the whole psychophysical problem which the Senkenbergsche Gesellschaft in Frankfort invited me to give less than a year later.

The psychophysical problem is one of the most

involved and difficult of all problems. Its discussion requires a grounding in logic, in psychology, in natural science, and, above all, in "phenomenology." For all that, I hope that I have discussed the subject in a manner which will enable every educated reader to follow the arguments; and I think that every educated reader, especially in these times, should take an interest in questions which at all times form an essential part of the problem of man, nay, which perhaps form the heart of that problem.

HANS DRIESCH

Heidelberg
7th March 1916

PREFACE TO THE SECOND EDITION

To my great pleasure a new edition of this book has become necessary some four years after its publication. Apart from a few additions and corrections the contents of the second edition are the same as those of the main body of the first; on the other hand, the form of the last third of the original edition has been substantially transformed. The Appendix of the first edition has been incorporated into the text, while the divisions of the text itself have been partially rearranged.

In its new form the book is not merely a critique supplemented by a few positive additions; the first, critical part, which, as has been indicated, comprised the whole text of the first edition, is now followed by a systematically designed second part. As the size of the book was not to be materially increased, I forbore to shape this second part into a comprehensive system of psychology. But the book has now become systematically constructive in regard to the prob-

lem of body and mind, and I believe that this marks a substantial improvement on the merely incidentally positive notes of the first edition.

HANS DRIESCH

Cologne
29th May 1920

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FIRST PART

CRITIQUE OF PSYCHOPHYSICAL PARALLELISM

MIND AND BODY

CHAPTER I

THE PROBLEM

I. THE ORTHODOX THEORY OF PSYCHOPHYSICAL PARALLELISM

THE modern theory of so-called psychophysical parallelism runs as follows: the "Physical," in the sense of the mechanical interpretation of nature, and the "Mental," are two separated realms of being and of becoming, or even of being only. They are two realms which are not related by any kind of causal link, but which, in their mode of being, correspond so completely to each other that there is, at all events, no mental reality without its physical counterpart, and perhaps also no physical reality without its mental counterpart.

This is the most general statement of the theory; but involved therein is the question how far there are or may be varieties of hypothesis

within this general theory. Not all parallelists acknowledge a complete correspondence of being *and of becoming* in each realm; many, in fact, do not recognize mental becoming and activity at all: for them there is just mental being, whatever that may mean. Others, again, do indeed allow to all mental reality its physical counterpart, but do not allow to all physical reality its mental counterpart. These two varieties of the theory may be combined; but that is not necessary, for it is possible to assume "mental causality" with a physical causal-counterpart and yet deny mental "correlates" to all things physical.

However, it is not proposed in the present essay to go more deeply into the different varieties of the parallelistic theory, which mostly belong to its more "materialistical" side, and to what is called "epiphenomenalism." It is proposed, rather, to lay stress upon that which is common to them all and which may properly be called the heart of the parallelistic theory. This, then, is the proposition, to restate it in different terms:

Whatever belongs to the Mental, whether it consists only in being or also in becoming and activity, has in all cases and in every smallest detail a physical representative both in regard to its ultimate parts or elements and also in regard

to the relations between such parts; and "the Physical" in its totality is throughout nothing but a mechanical (or energetical or electrodynamical) system.

The meaning of the words *existence* or *being, essential nature* or *quality, becoming, activity* ("causality"), on the one hand, physical or *natural* and psychical or mental on the other hand, is for the moment taken as understood. Their customary meanings will be sufficient for the understanding of our handling of the problem. In my *Ordnungslehre* all these concepts of order are either precisely characterized or, where such a course is practicable, strictly circumscribed (that is, "defined"). Definition is only possible, however, for *becoming* and *activity,* that is, connected sequence or "causality," and for *nature* and *mind,* but *being* and *quality* are primary notions. We shall return to this subject later.

I do not propose here to go into the history of the parallelistic theory; it is well known that the names of Spinoza [1] and of Fechner are more closely associated with it than any others.

[1] Spinoza can only be proclaimed as the father of modern parallelism with many reservations; the worlds of body and of thought, each taken as a whole, are according to him "properly" the same; he did not discuss in detail the relations between conscious life and brain-processes.

I intend also to touch only very briefly on the various philosophical standpoints, for which the examination into the validity or falseness of the parallelistic theory has any meaning.

On a genuine "metaphysical" basis, be it "naïve" or not in its attitude towards the critique of knowledge, the parallelistic theory has quite evidently a very clear meaning. There are two realms, precisely because substance has two attributes, through each of which it completely expresses itself; and in these two realms each and every part correspond. There can be no doubt what is meant here. But there is equally little doubt that from the metaphysical point of view theories other than the parallelistic one are possible, for instance, the Cartesian. Thus metaphysics by itself cannot solve the problem of the validity of one or other of the theories of the relation between physis and psyche, and the determination of this problem must clearly be matter for a special inquiry.

But parallelism, as well as its opposite, has also a meaning (though not much importance) on the basis of a pure *theory of order,* which does not go beyond the investigation of the contents of *my* experience and of the form of its order. Such a theory of order makes use of the con-

cept of the *quasi*-independent object which it treats *as if* it were independent in itself. This *as if*-object is found, however, both as a *natural* and as a *mental quasi*-reality, and it thus has some little bearing upon the theory of order to inquire into the question of parallelism or interaction between these two kinds of *quasi*-independent realities.

That the question "parallelism or its opposite?" can also be reasonably raised on a Kantian basis is obvious from what has already been said, and has in recent years been expressly emphasized by Stumpf,[1] Simmel,[2] and McDougall.[3] For the Kantian doctrine is no more than a theory of order, mingled inconsistently enough with fragments of a realistic metaphysic, as, for instance, the concept of the "thing-in-itself" (the existence of which is not questioned by Kant), and the concept of an "affection" of the senses. Moreover, the *a priori* possibility of both theories of the relation of the psychical to the physical was granted by Kant himself.[4]

[1] *Leib und Seele* (Leipzig, 1903); see particularly the remarks at p. 30, which deserve to be taken to heart.

[2] Geo. Simmel, *Kant* (Leipzig, 1904), p. 72.

[3] William McDougall, *Body and Mind* (London, 1911), pp. 181 sqq.

[4] *Critique of Pure Reason*, trans. by F. Max Müller (London, 1881), ii. 330 sqq. (Division I, book II. chapter i. "Considerations

The inquiry into the validity of parallelism thus has meaning both on a metaphysical basis and on the basis of "critique," that is, on a theory of order. On the other hand, this inquiry is *no longer possible even as a question* when, as is not unusual nowadays, the well-known *esse-percipi* of Berkeley is without further justification (though, to be sure, in so wide a sense of the *percipi* as to make it mean simply "my conscious content"), and in a manner certainly not wholly envisaged by its originator, made a short way of escape from all metaphysical thinking. In reality, this doctrine runs, there are "many egos," but the Physical exists only as an actual *perceptum* or *conceptum,* that is, as "the perceived" or as "the conceived" (but actually conceived) by one of these egos. It is unquestionable that on this basis the parallelistic theory has from the outset no clearly defined meaning: That an ego, A, has consciously the content $\sqrt{2}$, and that this "having" of A "corresponds" to a condition of his physical brain is meaningless here, because this condition of the brain exists only as the possession of another ego, say B. Thus, at least

on the whole of Pure Psychology as affected by these Paralogisms.")

one consciously-having B acts as the physical correlate of the having of A; if now the consciously-having B is to have in turn a "physical correlate," then this must be a consciously-having C. And so it goes on endlessly; the whole inquiry is meaningless,[1] although it had some meaning, as has been said, for the pure theory of order, which uses the concepts of the *as if*, that is, of the *quasi*-independence of natural reality. For the theory of order, when it speaks of nature, assumes that the realm of natural objects is real in the form of a *quasi-independent* reality; but it does *not* maintain that a particular natural reality in order to "be" must be *actually* perceived or thought of.

Finally, no particular explanation is required to show that the psychophysical problem does not arise for solipsism; that, indeed, it cannot arise there, for upon that theory *I* only observe "my" own experience *qua experience*, and I do not allow the existence of any *quasi*-independent object of nature, much less of any "thing" in the

[1] Cp. A. von Leclair, *Der Realismus der modernen Naturwissenschaft im Lichte der von Berkeley und Kant angebahnten Erkentnisskritik* (Prague, 1879), pp. 102 sq., and my *The Science and Philosophy of the Organism* (London, 1908), ii. 289 sqq. (2nd German edition, *Philosophie des Organischen* [Leipzig, 1921], pp. 520 sqq.)

naïve, common-sense meaning of that word. Elsewhere [1] I have attempted a complete examination of these questions as I viewed them at the time of writing.

II. THE CONCEPTS "FACTUAL" AND "LOGICAL"

Having thus briefly explained what the parallelistic theory is and what the chief assumptions are on which it is (generally speaking) possible, we now proceed at once to the immediate purpose of this study; we have, that is, to examine the real validity of psychophysical parallelism, or rather, the ultimate possibility of its real validity.

This statement of our aim expresses at once my conviction that we have to deal here with a problem in empirical reality, and not at all with something involving a necessary postulate or axiom, and that the problem with which we are concerned is one that can be solved once and for all by rightly understanding a few of the general characteristics of the facts themselves.

But what is meant by "understanding the facts" as compared with the use of axioms or

[1] *The Science and Philosophy of the Organism* (London, 1908), ii. 266 sqq. (2nd German edition, *Philosophie des Organischen* [Leipzig, 1921], pp. 520 sqq.)

postulates? Is there a sharp distinction between these two methods of inquiry?

Under the theory of order there is no sharp distinction between them; for that theory, concepts postulated by logic and concepts derived from things are both of them concepts of order.

All concepts or "signs" of order come into existence and are experienced as parts of an ordered experience. Some of these "signs" are valid once for all for all objects in the widest sense as soon as they are understood, and this I know by virtue of my very capacity of seeing order. These are the primary concepts and propositions, e. g., "this," "such," "different," "so many," etc.; propositions like "X is A or not A." Other signs or meanings are valid only for certain groups of objects, the groups being themselves constituted according to principles of order—I am referring here to the mediately constructed objects which make up the domains of nature and of consciousness. Within these groups the signs I am referring to "have" to be valid for all possible objects. Conceptions such as "persistent," "ground" and "consequence," "substance" and "causality" belong here. That such concepts and propositions founded on them are valid for every object of a group, e. g., for all things in nature,

is clear from their meaning once that meaning is clearly understood.

Here we have before us the *"a priori"* in its clearest meaning. This meaning comes to consciousness in experience in a way which ought not really to be called *a priori* or *a posteriori*. As soon as I am conscious of the meaning I know that it is valid for all that falls within a defined group. I understand the meaning and validity of the signs as truly as I have the idea of order and as truly as I "foreknow" order in a strange unexplainable way.

But all other concepts, and especially those of science, are ordering concepts, some of wider, some of narrower validity. The concepts, for instance, of mechanics belong to the former class, and are peculiarly clear and simple. These are valid for objects, so far as objects exist, which fall within Newton's definitions. What these objects are I do not know; I cannot even be sure that all inanimate objects are included. Whatever I may assume, the facts that I know must decide. No order would be of any use which did not agree with the facts.

It is thus that the "logical requirements" and "facts" become opposed ideas, possibly at war with each other.

But the considerations adduced show, I think, that the transition from requirements of logic, axioms, etc., to inductive reasoning from facts is a gradual one. The primary concepts are "factual" for they "order" all possible facts. And some propositions about persistence and connexion are true of all facts in nature. As soon as I understand these concepts and propositions I know that they must be binding for all nature.

Yet for all nature only—not for the coming and going of my own experience as immediate experience. This consideration makes still clearer the contrast between the "requirements of logic" and the "facts themselves."

We expect all concepts and propositions about natural groups of natural events, however wide or narrow the group, to accord with the facts, and such conceptions within their own domain are law-giving—just as far as that domain has been fully understood and fully worked out. I can, however, never know beforehand (1) what the domain is or (2) if it has been worked out. This I must find out *a posteriori*. The application of my concepts of order to any domain of knowledge, even to one as wide as inanimate nature, is limited by these two requirements.

This difficulty, this provisional use of every

a priori argument for a limited group of things, is due to the nature of man's knowledge.

The development of modern physics with its reliance on electrodynamics is the best proof possible of the contrast between the limited *a priori* and the *a posteriori*. We should have been very glad to have kept the Newtonian physics, if only we could conscientiously have done so, if only we could treat recent discoveries as special applications of Newton's laws!

III. OF CATEGORICAL DOGMATISM

This term is not used to imply moral reprobation but merely a want of conscientious thinking. It implies that important facts are being ignored. It is this charge that we have to bring against psychophysical or rather psychomechanical parallelism.

It is categorical dogmatism to assume, without special and careful inquiry, that parallelism is necessarily right; or that nature is necessarily through and through a mechanical system. To maintain this view is to adopt a conclusion of "order" without sufficient grounds, and without complying with the two conditions mentioned in the previous section of this book.

The only two universal concepts which are

binding on nature as soon as they are understood are those of substance and cause. Those are implied in the very effort to find order in nature. And I may postulate any and every natural factor that I please in support of these two concepts.

But that everything in nature must be mechanical in Newton's sense, that is not true; that is no necessary postulate of science. Physics itself has already become rather shy of this statement: it may be simple and desirable, but hardly generally necessary.

Again, it is not a necessary assumption that all causes in nature must necessarily be due to alterations in space. This is only necessarily true of purely spacial interactions.

It is categorical dogmatism therefore to maintain that nature is nothing but mechanism, for it treats as true of all nature propositions which have only been proved for part of nature, and this is the mistake of which categorical dogmatism is always guilty.

IV. THE SUBJECT MATTER ITSELF

The solution of the problem of parallelism must therefore be found in the subject matter itself, that is, in the facts themselves. But the

"matter itself" is in the first place the Mental; and, secondarily, it is the mechanical or the physico-chemical with which the mental is to be compared.

Special terms of order, undoubtedly fundamental ones, will be necessary for both of these spheres of objectivity. And we shall construct them just as we construct other scientific terms neither *a priori* nor *a posteriori* but by intuition (*Schauend*). When we have got them, they will be available in future *a priori* just as far as they have been thoroughly worked out in their own spheres, subject to improvement from time to time *a posteriori.*

We are therefore to extract and to retain out of the totality of the so-called Mental, certain essential characteristics of an ordering nature, characteristics which will truly show what the Mental is. It is the Mental, therefore, in its nature and consequences that we have to examine, staticly and dynamicly, if you please to use these terms, but only in its broad characteristics. What, then, is "the Mental"?

At this point we will only make the most necessary observations: the ultimate task of the theory of order as applied to psychology is to establish the concept of *the soul* or *mind* as de-

noting a special sphere or realm of being and becoming of *quasi*-independent objectivity.[1] Psychology concerns itself with this realm, and it does so by constructing a great number of subsidiary concepts supplemental to the theory of mental being and becoming. These concepts do not properly denote something that is *present in consciousness,* but rather something *unconscious,* though still *mental,* which is used to "explain" that which comes and goes in *consciousness.* But can the Mental, in this sense of the Unconscious, a sense which is familiar to the psychologist, be the proper subject of *our* investigation into the validity of the parallelistic theory? No. *The Mental,* in fact, of which *parallelism* speaks, is that which is *present in consciousness,* the Experienced as directly experienced, and it is to this that the Physical in the sense of mechanism is said to be parallel. We thus have to deal here exclusively with that which, in Husserl's sense, is called phenomenology. We have to concern ourselves with that which I, as the one who *has* a *conscious content,* perceive in an immediate sense as my objects. And we can do this in a relatively simple manner

[1] *Ordnungslehre* (Jena, 1923); *Wissen und Denken* (Leipzig, 1922), pp. 34 sqq.

so far as it concerns the purpose of this book, at least in its earlier parts, since I have elsewhere systematically discussed the essential presupposition of Order with which we are here concerned.[1]

Thus the question is: What do we perceive to be the essential "structure" of the Experienced *qua* Experienced, and does that which we perceive, when it is compared with the "structure" of the Mechanical, permit the adoption of the theory of psychophysical parallelism?

Thus, in order to lay special stress on this point, we do not set out from some such concept as "the concept of consciousness," "the concept of the soul," or the like. At the outset we put entirely aside such a concept as that of "soul," which may possibly be of use to *pure* psychology. The totality of that which *I have as conscious content* is our point of departure, and will always remain our main point. In this way only can we guard ourselves against all prepossessions; and, moreover, our rigid adherence to this, the only clear and distinct point of departure for an examination of the theory of parallelism, will prove, in the last sections of the first part

[1] *Ordnungslehre* (Jena, 1923), *Die Logik als Aufgabe* (Tübingen, 1927), and *The Crisis in Psychology* (Princeton, 1925.)

of this book, to be much more important than it perhaps appears to be at a first glance.

We may now begin our discussion with general and undefined conceptions, in order to advance to more and more specific and defined ones. I shall discuss in detail new or little-known trains of thought, but such as are well known will be only briefly considered. From this discussion will emerge the fact that, unfortunately, "known" trains of thought are mostly of a very general, of an all-too-general and undefined nature. And, on the other hand, it will appear that it is precisely the more particular and profound consideration of "the subject matter itself," at least in its fundamental bearings, that will give us our more important results.

CHAPTER II

GENERAL ARGUMENTS FOR AND AGAINST THE PARALLELISTIC THEORY

I. AN ARGUMENT IN FAVOUR OF THE THEORY

THERE is one general argument in favour of the parallelistic theory: the consideration that by adopting this theory natural science acquires a particularly simple form. For the acceptance of parallelism implies the acceptance of the thorough-going mechanism of nature, or at least of the complete and exclusive validity in nature of the laws of physics and of chemistry. And obviously, upon this view, nature would be a thing which we could much more easily master.[1]

[1] I expressly leave out of account the problem of "chance." At bottom, indeed, mechanism thinks of the *hic et nunc* of every phenomenon as contingent, and does not, in fact "explain" it, but ignores it or puts it on one side. To grasp the world as *an order*, so far as this were possible, would go much nearer to explaining it, and diminish the importance of mechanism even for the inanimate world. For further details of these and kindred questions, see my *Wirklichkeitslehre* (Leipzig, 1922).

But this consideration proves at most a certain desirability for the acceptance of the parallelistic theory and not a necessity. For, as I have elsewhere shown in a very detailed manner,[1] becoming of a physico-chemical or thoroughly Newtonian form is not the only possible form of becoming in nature. Three other fundamental forms of becoming are admittedly possible. And, what is perhaps still more significant, it is possible to form quite a clear picture, though to be sure not a "concrete" one, of the manner in which these other possible forms of becoming interact with mechanistic becoming, in the usual sense of the word.[2]

If there were only mechanistic becoming, and still more so if there were only Newtonian mechanism, nature would certainly be simpler, and there would certainly be an economy in the propositions necessary to grasp her.[3] However, geometry, also, would be simpler if there "were"

[1] *Ordnungslehre* (Jena, 1923).

[2] *The Science and Philosophy of the Organism* (London, 1908), ii. 176–226 (2nd German edition, *Philosophie des Organischen* [Leipzig, 1921], pp. 428–81).

[3] From the point of view of economy zur Strassen has maintained, and lately again defended, mechanism (Otto zur Strassen, "Die Zweckmässigkeit," in *Die Kultur der Gegenwart: Allgemeine Biologie* [Leipzig and Berlin, 1915], pp. 87 sqq.). Although vitalism does not seem to him to be established, he does not regard it as fundamentally impossible. Zur Strassen is therefore

no third dimension—but there "is" one! And even in physics there seems to "be" something that does not comply with simple Newtonian mechanism; and, compared with Newton, again, a pure kinetic mechanism would be still "simpler." But in this connection physics is judiciously discreet. Why should not psychophysics be so likewise?

Merely, to postulate mechanism in some form or other—possibly as an "insoluble problem," as is so readily done by some neo-Kantians—is to rob our inquiry into the facts, which, as we know, is also at bottom an inquiry into order, of all purpose and of all meaning. It is the old "tant pis pour les faits"! It is the false, the premature *a priori*. It is to ignore the two conditions which we found to be necessary for every special inquiry. Certainly, the Newtonian "principles" are a preferable and settled form of order—"if" a mechanical system is really before us. But I do not know *a priori* whether or not this is the case. In other words, I do not know that it *must* be before us. On the contrary, I know on the basis of the theory of the possible forms of becoming, that it *need not* be. There is only one

not a "dogmatic" mechanist, as I at one time erroneously supposed (see my "Das mechanische Dogma in der Naturwissenschaft," *Die Güldenkammer* [Bremen, 1911], ii. 77).

thing that I "must" do: I must be always ready to look for a reason for every becoming and construct the world of factual becoming as far as possible according to the law of logical sequence. And perhaps even this "must" is only unreservedly necessary upon the only basis of the theory of order.[1]

Another argument that is readily put forward in favour of the parallelistic theory is this, that we cannot "understand" how two quite different kinds of "substance" can act upon one another. But do we "understand" how a billiard ball in motion, on meeting another, "acts" upon it? We have a particular empirical reality before us and we try to order it, by the aid of the concepts of "force," "mass," etc. That is all, and this may be called "understanding"—or not. And in just the same way as I have exhaustively shown, we can order the way something non-mechanical acts on something mechanical, and hence "understand" it, or not, and this without any violation of the principle of the conservation of energy. That the difficulty, which attaches in principle to the concept of *becoming* and *activity,* is there the whole time in both cases, was already known to the occasionalists, and especially to

[1] Cp. *Wirklichkeitslehre* (Leipzig, 1922).

Malebranche, who alway appeals to God's aid for every action and for every impact.[1]

II. ARGUMENTS AGAINST THE THEORY

1. THE MEANINGLESSNESS OF HISTORY

An oft-heard argument against psychophysical parallelism is, that on the basis of this theory human activity and especially history is robbed of all meaning, because the "other," the *mechanistic* side of activity and history, even if it is not the more essential of the two, as is taught by epiphenomenalism, is at all events that which can be better and more clearly understood. According to the parallelistic theory man is an "automaton," it is argued, as well as, if not *because* he is a machine. Every great historical event would thus have taken place precisely as it did take place "even if there had been no consciousness at all."

If this really were true, we should, I think, have to reconcile ourselves to the fact; science is a stranger to sentimental considerations. However, we can very well retort that consciousness in fact now *is,* just as the world in fact *is,* and

[1] Nicolas Malebranche, *Entretiens sur la métaphysique,* vii. x (*Dialogues on Metaphysics and Religion,* trans. by Morris Ginsberg [London, 1923], pp. 189–90).

that there is little sense in pretending that without consciousness everything would be "just the same."

For the rest, this appears to me to be less an argument directed against mechanism as the "one side" of reality, as maintained by parallelism, than one directed against an implication of mechanism, namely, the idea of the uniform determination of all being and becoming, which involves the rejection of the idea of "freedom." And so far as this point is concerned, it must be said that the refutation of parallelism does not necessarily involve the affirmation of "freedom." It may indeed very well carry with it the affirmation of non-mechanical forms of uniform determination, as, for instance, by so-called "vitalism," and such a conclusion is indeed necessary to the framework of the theory of order. To be sure, metaphysics may perhaps be forced to accept "freedom"—we cannot go into that here [1]—and it is true that this would only be possible on the basis of a non-mechanistic theory of the order of nature. But for all that it remains true that a scientific or philosophical demonstration may never begin with the *necessity* of the assumption of freedom. And thus the whole of this

[1] Cp. *Wirklichkeitslehre* (Leipzig, 1922).

argument, which we have now examined, in favour of a theory of "interaction," breaks down.

2. PANPSYCHISM

It has often been said that the parallelistic theory, if consistently and thoroughly thought out, leads to panpsychism; and that, since panpsychism is nonsense, parallelism must also be rejected. If there really is strict parallelism, as Rickert once pointed out,[1] then, when a man is drunk on alcohol, the chemical substance C_2H_6O must have acted on his body, while his mental counterpart must be supposed to have been influenced by the "psychical correlate" of the material alcohol.

Thus a "consequence" of the parallelistic theory, and with it that theory itself, is by this objection made to appear laughable, as by the "automaton" objection above examined a consequence of the parallelistic theory was made to appear contrary to moral sense.

We must ask ourselves, however, whether the inference is really so laughable as it appears to be at the first glance, and whether that with

[1] Heinrich Rickert, "Psychophysiche Causalität und psychophysicher Parallelismus, *Philosophische Abhandlungen: Christoph Sigwart zu seinem siebzigsten Geburtstage* (Tübingen, 1900), pp. 65–6.

which we are dealing is really its "consequence." Both of these assumptions, so it seems to me, have to be denied. If panpsychism really were true, we should, I think, have to reconcile ourselves to it without any regard to whether it might have some influence on our sentiments or not. But (and this is more important) it is not at all necessary to consider the parallelistic theory in its original, Spinozian, panpsychical sense; this is shown by the very existence of what is called epiphenomenalism and many other variations of the theory.

The argument that "parallelism consistently thought out leads to panpsychism" is thus not conclusive against the parallelistic theory as a scientific-philosophical statement.

CHAPTER III

THE ORIGIN OF THE MENTAL

WE now enter upon the "subject matter itself," and we must investigate its particular characteristics as closely as we can. Von Kries, H. Schwartz, and E. Becher have done very valuable work here, and I may also touch upon the results of my own investigations into the philosophy of the organism.

Since it is psychophysical parallelism that is here under examination, the discussion of the "subject matter itself," as we already know, implies for us not only a close consideration of the nature of the Mental, but also of the relations between the Mental and the Physical. These relations, into which we are now to make a close investigation, are of two kinds: there are relations in the sense of pure comparison and there are relations of becoming. And, as has already been pointed out, our investigation into both of these kinds of relations can in the present case be

conducted without the use of any presupposed "theory of knowledge," but by the light of naïve, unsophisticated common sense.

We will then begin with the relations of becoming. And, indeed, we will begin with the discussion of questions which relate to the origin of a given Mental of a definite particular quality, from a given Physical of a definite particular quality. A common-sense consideration of the matter seems to show quite clearly that such an origin exists: my memory-images, for instance, "derive" from my perception of natural objects, and further back, from stimuli of my sense-organs and my brain. But it is equally clear that the fact of this "origin," this derivation, does not in itself decide the problem of parallelism. Indeed, considered in a quite unprejudiced manner, all that is so far established is this: this particular mental being is later in the course of time than this particular physical being. And it is here that we have to meet the question whether this naïve statement concerning the origin, the "deriving," of the one from the other is really the last word on the matter. Does it not use wholly popular language without taking into consideration the fact that the "one" and the "other" belong to quite different realms of be-

ing? Indeed, does not strict logical thought require us to derive the mental B from the physical A in such a way that the whole process of derivation including its last term would be *wholly physical?*

If such a process could be pictured in the *mechanistic* sense, then the parallelistic theory would at least have gained strong support. A series which appears to be originally psycho-physical, or rather physico-psychical, would at all events be replaced by one which is purely physical and even mechanical. Now, whether this is possible or not has to be discovered from a consideration of the particular mental events which form the last term in the process, and from their comparison with the particular physical event which preceded them, according to the above common-sense "derivation" of one from the other.

We shall begin now with those problems which are comparatively the simplest, and we will then proceed to the more complex. Throughout this discussion we shall touch only briefly upon considerations which need to be put forward but which have already been dealt with by other thinkers.

THE ORIGIN OF THE MENTAL

I. MEMORY-IMAGES AND PERCEPTIONS

Real *memory-images* "derive" from perceptions, and these "derive" from things and happenings in natural reality. Are *"mechanical equivalents,"* as we propose to say henceforth for the sake of brevity, possible here?

The memory-images have two peculiarities, which make them very strange "mental things," and which cause, at the least, great difficulties for the parallelistic theory. The memory-images, in fact, *falsify* the originally perceived images which they are supposed to *re*present but at the same time they are always specific, that is, "individual." Both of these peculiarities of the memory-image are generally known. When I return to Rome after a long absence, the perceived image of St. Peter's differs in many essentials from the picture of this church which I had in the interval "represented" to myself; and yet every represented image of the church which I had experienced in the interval was for the time being quite an individual one.

The falsification of the memory-image is in part only the result of a deficiency of characteristics, that is, of a lack of many details of the orig-

inal experience; in part, it is a real falsification.

The individuality of every memory-image is to be seen not only in its total structure, but also in its situation, size, colour, and surroundings; for instance, if I call up the memory-image of an absent friend it is always quite specific, that is, it is of such-and-such a colour, of such-and-such a size, in such-and-such a position (e. g., seen nearly full-face), and against such-and-such a background. But for all that, because of the falsification, it is not a completely true "resemblance."

The peculiarities of the memory-image which have just been described, can at once be seen to offer great difficulties to the parallelistic theory. Let us call to mind from what *physical* thing the memory-images do in fact ultimately derive, and what origin they have on the basis of the theory of the mechanical equivalent. A thing of a special form influenced the eye, the visual nerves, and the brain, by means of light-waves. If, now, something like a replica of this given thing physically "occupied" a given spot of the brain, and if "to remember" could mean something like striking upon this very spot of the brain, then, without going any further, the parallelistic theory would be in principle acceptable. But just

this *cannot* be the case. The errors of detail in the memory-image might in themselves be explained without more than the adoption of a very simple subsidiary hypothesis, such as a distortion of certain parts of the appropriate brain-image. But this is not the case as regards the real falsification and the existence, notwithstanding this falsification, of the "individuality" of the memory-image: what I experience is in fact a memory-image complete in itself in spite of its falsification. It will be said that fragments of other pictures of the same object falsely filled the gaps in the original; but this supposition does not at all explain on a "mechanical" basis the completeness of the memory-image as I experience it. The memory-image is not merely "reproduced," something more is "produced" here, something, indeed, that has most clearly its own proper particular nature.

Of course the parallelistic theory must be allowed to form as many subsidiary hypotheses of the most extravagant kind as it pleases, though to be sure these hypotheses, following the basic presupposition, will always be rather mechanistic. But I do not see that any of the proposed subsidiary hypotheses are able to make the *falsification-and-yet-completeness* of the memory-

image even approximately understandable in a physical sense. If in every case the falsification of the memory-image consisted in the fact that only fragments of the original *as fragments* stood before the consciousness, then all would be simple; but just that is not always the case, and indeed is not usually the case, whether in the case of acoustic memories, as of musical themes, or whether in the case of optical memories.

At the least, there appears here to be a very great difficulty for the parallelistic theory: the *mechanical equivalent* cannot be constructed.[1]

II. RECOGNITION

I can recognize as *the same* the contents of perception and of memory and even of pure thought. The word "recognition," however, is properly applied to the *finding-as-the-same* of the contents of perceptions. In the adult man all so-called perceptions are, in fact, to a great extent, recognitions, since a grown man has already had experience of most forms of perceptual reality.

Recognition, in the narrower sense of the

[1] A similar conclusion would be attained by a close investigation of dreams, which are indeed intrinsically autonomous and by no means chaotic collections of fragments.

word, may be considered from two sides for the purpose of the parallelistic problem: from the side of its origin from the physical, and from the side of its own intrinsic character. This twofold discussion has been carried out by von Kries and by E. Becher in a very exhaustive and fruitful manner, so that I can be quite brief.

1. RECOGNITION AND THE SOURCES OF STIMULUS[1]

When I kick the leg of the table with my foot, and then touch it with my hand, or see it with my eye, it is *the same* leg that I feel or see. But as we are not in this instance concerned with contents of perceptions as *the same,* but with much more complex things, we shall do no more than thus call attention in general terms to the fact thus observed, that we can attain recognition of the same by the different senses, or, as Erich Becher has it, by different *sources of stimulus.*

The matter is much more clear and simple, and therefore better defined, in the following example: A geometrical figure throws its image on a quite definite spot of the retina: the figure is perceived. The same figure on another occasion throws its image on an equally definite, but en-

[1] See Erich Becher, *Gehirn und Seele* (Heidelberg, 1911), pp. 215–22.

tirely different, spot of the retina: the figure is nevertheless recognized as *the same.*

How does the theory of the mechanical equivalent meet this case with its doctrine that the recognition is the result of striking upon a "trace" left in the brain by the original perception? How does the parallelistic theory apply here with all the things and processes which it so dearly loves and which are, indeed, so necessary to it? We need say no more, for it is obvious that the same "trace" in the brain cannot have been affected in the two experiences, since in each case the "source of stimulus" was very distinctly and specifically *different.*

To be sure, the parallelistic theory can try to invent subsidiary hypotheses to explain the facts; but it must be admitted that the whole theory is in great difficulty.

2. THE RECOGNITION OF RELATIONS [1]

Relations of things, in the widest sense of the word, can be recognized as *the same* without any regard to their "absolute" nature, and if spatial

[1] In this connection see J. von Kries, *über die materiellen Grundlagen der Bewusstseins-Erscheinungen* (Tübingen, 1901), pp. 15–26; E. Becher, op. cit., pp. 222–38. See also Henri Bergson, *Matter and Memory,* trans. by N. M. Paul and W. S. Palmer (London, 1911), pp. 147 sqq.

relations are being considered, without regard to the position of my own body. And this recognition of "qualities of configuration" in Ehrenfels' sense does not apply only to spatial things: a melody is also *the same* irrespective of the key in which I hear it.

Here also we can be brief, since there already exist admirable discussions of the matter by von Kries and E. Becher, as well as in scientific literature.

It is clear without further argument that the favourite theory of striking upon previously created "traces," that is, special brain-states specifically located, here fails altogether. It is anyhow very difficult to understand the matter in a parallelistic sense because of the fact that a figure or a melody is grasped *as* a complex whole in its unity, and not merely as a collection of parts—for instance, such complex wholes as "right-angled triangles" or "the Siegfried-motif"—irrespective, in the latter case, of the key in which, or the instruments on which, it is played.

To be sure, subsidiary hypotheses have been framed in this connexion, which go beyond the ordinary doctrine of nerve-induction or traces; of these theories those of Exner, as von Kries

has emphasized, overstep reasonable limits. But that any one of these explanations is really satisfactory in the sense of affording a mechanical equivalent, has not been claimed in any quarter, not even by those who put them forward.

The discussion of the recognition of pure relations leads directly to the consideration of the mental fact of "abstraction"; in more precise language, it leads to the consideration of the fact that I may consciously have or experience *universal* ideas. All concepts in the narrower sense do, in fact, carry with them general references to things and do so without regard to the "absolute" existence of the things referred to.

It is not conceivable how all this can have a "mechanical correlative." And, in fact, Husserl [1] on the one hand and the philosophical psychologists [2] on the other have shown with all possible clearness that abstraction as a mental fact, and indeed as an elementary fact of the mental life, cannot be denied; we shall ourselves have occasion to return to this point.

III. MENTAL INVENTION

It has often been said by those who have gone

[1] E. Husserl, *Logische Untersuchungen* (2nd edition, Halle, 1913–21), ii. 106–224.

[2] For further particulars, see my *Die Logik als Aufgabe.*

into the matter closely and without prepossession, that on the basis of the theory of traces and of conduction, and also, on the basis of a pure [1] "theory of association" (which is not as such concerned with the relation between the mental and the physical), all invention would be impossible. Art and science, even the everyday ability of a labourer in adjusting himself to the circumstances of his life, would be impossible if all that occurred was merely "striking upon traces." Of course, I cannot invent any new "quality of sense," one, that is, that has never been experienced, but I can combine in a new way, using the relations of time and of space, the materials which I have received or experienced. As a result of such combination a particular relation which *was* previously *not* here, and had not before been realized, *is now* here and is now re-

[1] A "pure" theory of associations in a very strict sense, one, that is, which only makes use of the concept of association by means of so-called contact, has, it is true, never been advanced by a psychologist of any depth of thought. To that extent G. E. Müller (*Zur Analyse der Gedächtnistätigkeit und der Vorstellungsverlaufer* [1911–17], ii. 487) is right when he says that in opposing it, one is combating an abortion. Müller's own theory, which, as is well known, makes use of the concepts of *degree of readiness, constellation, representation of functional indetermination,* etc., is to our mind, and notwithstanding some differences in detail, much nearer the theories of the "philosophical psychologists" than to a *pure* theory of associations.

alized. This is the essential part of that which we have here to consider, since we need only mention the question of origin in quite a general manner.

And in this connexion we must also mention more especially with regard to art and science, but also as affecting our daily life, the experience of the esthetic and logical (including ethical) *finalities:* "this creation is *beautiful,*" "this one is *true*"—"both are *in order.*" And among ideas that are true there are many that I have already learnt to be true and which I treat as settled or conclusive. For instance, I learn for the first time in my life the Newtonian principles of mechanics as a principle of order and of logic; but in doing so, the proposition relating to the combination of forces is already "settled" for me so far as it rests upon the concept of a parallelogram, since I have previously mastered geometry.

How can this be explained on the theory of traces? Indeed, how can there be a mechanical equivalent of this?

It has never been denied by those who have considered the problems of phenomenology at all in their true nature, that these facts cause extraordinary difficulties for the parallelistic

theory. Only those who have consciously or unconsciously overlooked these essential aspects of the question, can make light of them.

IV. LIEBMANN'S PARADOX

In a way of his own, Otto Liebmann[1] has recognized the great difficulty that exists for parallelism in the concept of the Final; and it is instructive to follow his argument, for it has a direct bearing upon the *comparison* of the Psychical and the Physical. A brief discussion of "Liebmann's paradox" will thus add something new to what has already been said and form a transition to what is to follow. Not only the problem of the "origin" of the Mental, and the attempt to find a mechanical equivalent for it, is dealt with in it, but also the Mental as such and its comparison with the Physical as such. Liebmann's paradox is thus also connected with the considerations to be put forward in the last divisions of the first part of this book. But since the becoming or "happening" and not the "nature" of the Mental and the Physical is the main point of our present discussion, we may conveniently consider Liebmann's paradox here.

[1] *Zur Analysis der Wirklichkeit* (2nd edition, Strassburg, 1880), pp. 542 sqq.

I now give the essence of Liebmann's train of thought in my own words:

Let us assume that I think the equation:

$$^2\sqrt{a^2 + 2ab + b^2} = \pm (a + b)$$

with full consciousness of all its details, so that what we have under consideration is a true *reflection;* or let us assume that I represent to myself that the syllogistic formula for *Celarent,* "no M is P, S is M, therefore no S is P," is really true. In doing so I experience successively—there "is" objectively here—a sequence of mental things. Each has a specific meaning with *finality* and *conclusiveness,* and in a specific place between the different meanings grasped by me there exists the relation *therefore* or *consequently* in the sense of logical "consequence." Again, if I think of any chain of reasoning or of "solving" difficult equations, then all the processes of *reflection* become much clearer: "notions" follow one another; each relates itself significantly to the problem, if all goes well, each is closer to conclusiveness and finality than its predecessor; till finally the conclusion is reached and all is "in order." [1] That is precisely the proc-

[1] For further details see my *Die Logik als Aufgabe* (Tübingen, 1913).

ess in certain forms of reflection. Now the parallelistic theory requires that to the experienced objects of this sequence, with the kinds of relations comprised in them, there should correspond, as physical "correlate," a closed chain of purely mechanical processes in the brain, determined in their order and sequence according to the Newtonian or corresponding principles. The mechanical process, according to Liebmann, may be characterized by the sequence of events a b c d e . . . ; to it corresponds the mental experience, "I want to go to the market to buy firewood"; were the process a e c d b, then the experience would be the nonsensical "I want to go to the firewood to buy the market."

Is such "parallelistic" theory plausible? Is it not much more like a paradox?

To an "automaton *spirituale logicum*," says Liebmann, there must needs correspond an "automaton *materiale logicum*," however different the intrinsic laws of their natures may seem to be.

Liebmann states the paradox, but does not solve it; his presentation of it culminates in the concept of a spiritual-material harmony. But it seems to me that such a harmony could only be spoken of if the material world could be clearly

grasped as a whole in which every particularity of being and of becoming in the whole had its express place in relation to the whole. But scientific conscientiousness forbids us to assume that we can so understand things.[1] The mental processes of a man in all their particularity necessarily appear to us to be contingent, that is, to be determined by all the events of his life whatever they may be historically. It is determined, for instance, by the luck which he had in his education. Indeed, it is not true to say that we do regard particular events as determined by the world as a whole. Thus the idea of a spiritual-material harmony is of no use, for we cannot use it practically. But if it fails, then Liebmann's argument is not merely a paradox, but rather an insuperable difficulty for the parallelistic theory. Indeed, to emphasize the point again, his argument proves parallelism to be nonsense precisely because it is *not only* the brain with its "inherent" properties which determines the mental life of a man at any point in his life, but what he *is able* to experience is determined by all his previous experiences, whatever they may be. And with these words we are ready to pass on to a wider consideration of the

[1] For further details see my *Wirklichkeitslehre* (Leipzig, 1922).

whole subject which requires a separate chapter to itself. After all, Liebmann's paradox is concerned with only one half of the whole very paradoxical parallelistic theory.

CHAPTER IV

ACTION AS A NON-MECHANICAL NATURAL PHENOMENON

IN my work, *Die "Seele" als elementarer Naturfaktor* (1903), I made my first attempt to discuss the fundamental problem of psychophysics, exclusively from the *physical* side. This discussion (which, by the way, is a truly "behaviouristic" one) was limited to the sphere of my general theory of organic nature, and was later incorporated in a revised form in my *The Science and Philosophy of the Organism*.[1]

The theory of action was treated as a part of the theory of vitalism. The conclusion reached was, that the natural event called "action" is not susceptible of a physico-chemical explanation, and yet is a natural event. This conclusion was at the same time an (indirect) proof of vitalism and refutation of the parallelistic theory, for a necessary consequence of orthodox parallelism is

[1] *The Science and Philosophy of the Organism* (London 1908), ii. 1–122 (2nd German edition, *Philosophie des Organischen* [Leipzig, 1921], pp. 289–386).

the theory of the completely unbroken mechanical causality of nature; and whoever denies a consequence denies also the premises on which it is grounded.

"Action" was discussed throughout both the above works as a *natural* phenomenon, within the realm of the "physis" (nature). The "subject matter under consideration" in these books was a subject matter of natural science: How is man's "activity" to be regarded as a "natural event"? What essential characteristics has it as a natural event? And do these essential characteristics of activity in principle permit a physico-chemical explanation? Or are they characteristics which differ essentially from those of mechanical or spatial becoming?

"The Mental" thus plays no part at all in the whole of this train of thought; at most it enters only "analogically" at the end, when the argument is complete. And, as has already been noted, the problem of parallelism is only indirectly touched upon, in so far as a necessary consequence of the parallelistic theory is examined. From this it follows, according to the rules of logic, that if the consequence were affirmed, psychomechanical parallelism itself could be possibly but not certainly true, while if the conse-

quence were denied, parallelism would be certainly impossible. And, as the consequence was denied, psychomechanical parallelism was shown to be impossible.

This method, which is now generally called "behaviouristic," is, quite strictly, the only one possible for psychophysics as applied to other men as well as for what is called animal psychology. In fact, it is only the Physical which *can* here be "directly examined" in the proper sense of the words. For of the Mental, or of "mental things," if the expression be permitted, I only know that which *I myself have consciously experienced* or that which, on the basis of my own *experience,* I (upon some psychological theory or other) ascribe to my "mind." [1]

This truth, is much too easily forgotten, especially where the activity of animals or the failure in action of men with diseased brains or of animals whose brains have been operated upon, is under consideration. In such cases it is natural to believe that peculiarities or defects of mental life itself are being observed. But it is really only

[1] I am well aware of the theories, opposed to my own, of Th. Lipps and of Scheler, but I consider these to be incorrect; in no case are we here concerned with real *knowing*. Cp. my *Wirklichkeitslehre* (Leipzig, 1922), and *Wissen und Denken* (Leipzig, 1922), pp. 75–6.

possible for us to observe in such cases peculiarities and exceptional manifestations of the natural events which are named actions. From such grounds it is possible to arrive at a vitalism, but a psychology can only be approached indirectly, and indeed only on a basis of very involved analogies mostly of an unconscious metaphysical nature. And these analogies are always very doubtful, because they are always all too human. The possibility of quite strange and unknown "psychical types" is scarcely thought of at all. The possibility, also, is scarcely faced at all, that we might be dealing only with defects of the Physical in its "expression," while the "Mental," in utter inaccessibility, might all the time be "normal." It is true that we cannot know the truth of these things, but we should at least keep an open mind. Any experience which I could myself have following an illness or an operation to the brain of *my* body would be another matter. But on the other hand such an experience would have to remain *mine* not only in a methodical sense, but also in a practically "solipsistic" one, since the possibility of expressing or communicating it to others would be cut off.

Of course, by all this I do not intend to deny the great significance of the information con-

cerning the defects and peculiarities of action which have been gleaned from animal psychology, or from operations, or at the sick-bed, nor do I belittle L. Edinger's comparative anatomical discoveries concerning the connexion between the construction of the brain and behaviour.[1] All that I do intend to establish is that the "Mental" does not come before us either mediately or immediately, but only analogically mediately, and that this analogical knowing *can* unfortunately only be of a very vague nature, and must be expressed with great care.

We investigate *immediately* (in the sense of natural science, not of epistemology) *only* characteristics of actions as *material* events related to characteristics of the normal or artificially altered anatomy of the brain. *Mediately* we may perhaps speak here and there of particular "autonomous" natural factors. But of the Mental we cannot speak otherwise than analogically, and as soon as an animal or a non-"normal" man is under consideration, we must use mental categories with the very greatest care and with full consciousness of the inadequacy in principle of their application.

[1] L. Edinger, *Einführung in die Lehre vom Bau und den Verrichtungen des Nervensystems* (2nd edition, 1912), xvii.

For these reasons the results obtained by means of the observation of animals, or the study of illness, or from comparative anatomy, or from operations, cannot be turned directly to account for the basic problem of psychophysics, the problem of parallelism. How can we ask whether two lines are parallel if we only possess one of them? And, in fact, in such cases, we never have more than the physical line. The only results in such cases that can be used for the problem of psychophysics are those which are obtained by means of the question: "Mechanism or vitalism?" That is to say, results that have been obtained by the inquiry into the possibility or impossibility of a mechanical interpretation; for a necessary consequence of parallelism will, at all events, be either affirmed or denied on the basis of these results.

I. BRIEF STATEMENT OF PREVIOUSLY PUBLISHED RESULTS

I may now be permitted to recapitulate the principal results of my study of human action. But I propose to do so in a form that is new in some not unessential respects. Because it remains throughout simply within the sphere of nature, my treatment may not be without value.

There is to be investigated:

First: On what rests the *ability* of a man to perform actions at any given moment of his life? What, in other words, is the "foundation" of all the actions possible to him up to this moment?

Secondly: What causes a *particular* action, out of many possible actions, to become *real* at a given moment, and how ought any particular action to be characterized in detail?

There are two "criteria" of action as a natural phenomenon which can be adduced with regard to its possibility and to its realization, two characteristics, in fact, which completely govern the subject matter with which we are here concerned.

I. The *possibility of acting* is determined in the first place by the *criterion,* as it may be called, of *the historical basis of reaction:* "The whole capacity for action which is possessed by a man at a given moment of his life is determined by, or is at all events dependent on, the whole of the stimuli and the stimulative effects experienced by him until that moment."

This capacity for action of a man, which, as stated, is determined by his personal "history," by that, in other words, which has happened to and with him, is not, however, as in the case of the phonograph, of the nature of a "capacity" or

"potentiality" for exactly reproducing in its particular specificity that which has been experienced. Rather, every smallest bit of his experience is available for the formation of new combinations, and is, to use an expression of Kohnstamm's,[1] disposable, "realizable." Again, to distinguish the process further from that in the case of the phonograph, the stimuli are received in certain parts of the body and in certain ways; the actions are performed, on the other hand, by quite different parts of the body in quite different ways. That is, the stimuli are received by the sense-organs and the actions are executed by the motor-organs. Air-waves may be used in both cases, as in a conversation, for instance, where the stimulus on the one hand and the effect on the other both consist of such. But these waves are not merely reflected, so to say, as in the phonograph, but the second group of air-waves is the result of the reaction of the whole organism to the first.

II. The manner of "realization," that is, the *realized action,* is characterized secondly by the *criterion,* as it may be called, *of the individuality of the correspondence between stimulus and ef-*

[1] Oscar Kohnstamm, "Intelligenz und Anpassung," *Annalen der Naturphilosophie* (Leipzig, 1903), ii. 445.

fect: "Every action of a man at a given moment of his life, on the basis of his history, is determined by, or at all events is dependent on, a stimulus, and stimulus and action are separate individual events, individualities or combined wholes, which correspond to each other as wholes but not by way of relation of element to element."

In this formula of the second criterion of action, the words "on the basis of his history," are, of course, required. By them the two criteria are united.

I have previously illustrated the "criteria" of action, and especially the second one, by the analysis of a conversation. The languages in which, and the things of which, a man *can* speak depend, at all events to a great extent, on his "history," that is, on his up-bringing and on his education. What he says *in a given case* as a reply to what he has heard is a separate and distinct individual response in every separate and individual case. For a man who "understands" many languages, speech and reply can proceed in any of them without losing their *sameness.* On the other hand, a quite minute alteration in a speech, even the change of a single sound in a long passage (such as the substitution of "mine"

for "thine"), can have as its consequence an entirely different reply. Thus the elements of the stimulus are not singly related to the elements of the response. The summed totality of the component parts of the physical stimulus, as we may say, is in the organism transformed into a whole and determines the birth of the effect in a new form which is itself whole also.[1]

This is all that can be said, in rough outline, of action from a physical point of view. Any additional observations that can be made proceed analogically out of my own inner experience, and are thus phenomenological, or, if ordered in a determined manner, psychological; but they do not pertain to "action" considered as a natural event.

Thus the purely physical analysis by itself shows that a physico-chemical explanation of the subject matter is impossible. A consequence of orthodox parallelism therefore collapses, and with it parallelism itself. The brain and the nervous system certainly exist, and they certainly play an essential rôle; they may indeed be in a physiological sense an inborn, inherent machine

[1] By means of this discussion the causal theory of action becomes closely related to the causal theory of embryo-genesis. Cp. also my *Der Begriff der organischen Form* (Berlin, 1919), pp. 57–61.

—though this is very improbable in view of the regulative capacity of the brain-functions. But this machine—in the widest sense of the word, namely, that of a strictly co-ordinated order of dynamic agents ("natural factors")—is not in any case the *sole* essential, and for the purpose of explanation something needs to be added to it which is not a machine. For the power of using in an individual form, in response to individual stimuli, any of the past impressions which have resulted from the chances of personal history, contradicts the concept of a "machine."

II. AMPLIFICATIONS AND ADDITIONS

That is, in brief, the essential part of the train of thought that I have elsewhere presented at length. I may now review it with a few explanations and amplifications.

It was not known to me when I first conceived this train of thought that a certain part of it, which is now widely known as the "telegram-illustration," had been already made use of by Ploucquet, so far back, in fact, as 1782. But this part is not the whole, and I may be allowed to say that I was the first to give a close analysis of the two "criteria" of action and to prove that they are two separate concepts which are unified

in action. Whoever makes use only of the telegram-illustration ("Fritz *an*gekommen"—"Fritz *um*gekommen": "Fritz has arrived"—"Fritz has died") overlooks, or at least fails to note with sufficient emphasis, all that is involved in the criterion of the *historical basis of reaction.* The "*unification* in action of the two criteria," as I have named it, "proves vitalism," and thus refutes the parallelistic theory.

On the other hand, other thinkers, L. Busse,[1] for instance, found something in the telegram-illustration that I did not stress; they found, namely, that any proposition if it is read, say in a story, or if similarly it is heard in a story that is read aloud, "acts" quite otherwise than if it personally concerns me. A proof of this is the difference between the action of a theatrical performance and "reality." And we may also supplement the criterion of the separate individual nature of the stimulus and of the response, by noting the well-known fact that an action-stimulus can remain the same whether it is heard or read, irrespective of the language. I desire to lay special emphasis on this fact that the action is *the same* whether the stimulus first comes from

[1] Ludwig Busse, *Geist und Körper, Seele und Leib* (Leipzig, 1903), pp. 310 sqq.

hearing or reading. But this does not involve any essential amplification of what I have set out above.

But now we come to really essential amplifications. First of all we may link with the fact quite briefly indicated above the amplification that between the stimulus and the action any desired interval of time may pass. This statement is illustrated by the fact that a speaker may think something over, and, still more clearly, by the fact that a reply can be put off, in order to be given later, perhaps on the next day.

If this fact already is very strange, it is certainly a still stranger one that, as can be realized with all actions, the reaction can be commanded to take place at a given moment with the stimulus. Here is an example:

"Do you incline more to the ethics of Schopenhauer or to those of Fichte? Give me your reply now, and your reasons when we meet to-morrow morning."

In this case the time of the reaction, together with the stimulus to which the reaction is to occur, are both determined, and that not in a manner which has necessarily to take only one physical form. For the command could have been given in any language, so long as the auditor

"understood" it, or in writing, or by means of any and every form of speech. All that is necessary in such a case is that a "time-command" be given; and it does not matter by what stimulus it is given. It would be conceivable that in a "machine" the strength of a stimulus might stand in some uniform relation to the time of the reaction, but we are not at all concerned in this illustration with the *strength* of the stimulus: the time-command remains what it is whether it is shouted or spoken in a hardly audible whisper.

Commands indicating the place where the reaction is to take place are also possible: "Answer me to-morrow morning at the house of our friend N." The commanded place can be one in which the auditor has never been.[1]

I note further the well-known, but insufficiently analysed, fact that the whole structure of a very complex course of action can be altered uniformly throughout its course by a single circumstance accompanying a given part of it:

I *desire* to go on a journey and describe the

[1] Much could be learnt by going into further detail here. I recommend to the mechanist the analysis of the fact of "going to school": the child reacts on the basis of its historical basis of reaction, individually determined, and to time- and place-commands, in order that it may enlarge its historical basis of reaction, at all events with the effect that it does enlarge it.

itinerary that I have planned; I *have* made the journey and describe my itinerary again: the first time all the verbal forms are in the future tense, the second time in the perfect tense.

I relate something, and on another occasion I relate that, and how, I related it on the first occasion: the first time I employ so-called direct speech, the second time, so-called indirect speech, and that difference involves an alteration in nearly all the verbal forms throughout the whole of the course of the action.

Finally, let us consider this: That strange thing in nature which is called "man in action" sometimes conducts himself in such a manner that, on the basis of certain of his reactions, the "spoken" ones, we assume the existence of a state of affairs which his later conduct shows to be non-existent. In such a case we say that the man has "lied." Let the mechanist try to build a machine which finds it opportune to "lie"!

III. PHYSIS AND PSYCHE

We may now briefly sum up the results of our analysis of that strange thing in nature called *action,* or rather *man in action,* and in such a way as to emphasise strongly those particular char-

acteristics of man in action which have no counterpart anywhere in the "inorganic world." And we will associate with each of these mechanically inexplicable characteristics that phenomenological or psychological concept which we know to come into question at this point.

1. Man in action is a material thing in nature the capacity for action of which is determined by the whole, whatever it be, of the circumstances of his life. He is, in fact, made into the very capable thing in nature that he is, by all those things which happen to him.

This physical characteristic of man in action corresponds psychologically to the concept of the *memory,* which is a capacity for future experiences which are not merely reactions to sensory stimuli.

2. Man's historical basis, in the sense defined, does not imply, however, as in the case of the phonograph, a capacity for merely reproducing a copy of the particular thing received with its special particularity; it implies, rather, a capacity for resolving what has been received into ultimate parts, and for re-combining these parts.

This characteristic of man in action, in conjunction with the first, contradicts most emphatically the concept of a *machine;* for a machine,

on the contrary, is a thing in nature whose capacity for action is fixed from the beginning of its existence—even if it contains a "regulatory" apparatus—and which can at most return what it has received in exactly the same kind of combination as that in which it received it—this can be seen in the phonograph.

To the above characteristic of the physical man in action corresponds psychologically the facts of mental life which we have specially described in a previous section, the facts, I mean, that all memory-images are not so much properly reproduced as produced, this being the reason for the "falsifications" which occur in them notwithstanding the fact that they possess an individuality of their own. There further corresponds to our description of man in action, as a physical thing in the stream of becoming, the psychological capacity for genuine invention, which plays such an important part in all higher mental activities, and chiefly in science and art.

3. There is an *individual* relation between stimulus and effect in man when he acts. That is, stimulus and action correspond with each other in a quite peculiar way as *wholes,* but they do not correspond part by part in all their component parts. Either of those wholes (stimulus

or action) can be presented in many different physical forms which have no resemblance to each other; on the other hand, quite insignificant alterations within a whole can radically alter the whole as a whole. This kind of correspondence between action and stimulus, taken by itself, contradicts every kind of mechanical theory; and there has also to be added, as we know, that the physical thing, "man in action," is made what it is in its capacity for action by all the facts of its history. But this infinitely variable order of action is far from being lawless; it is, indeed, governed by special and very strange laws, which science as such will never be able to formulate except in a very clumsy and imperfect manner.

The laws governing the actions of man, which are so very difficult to describe in objective terms, can be very clearly grasped psychologically and phenomenologically. Account has here to be taken of all that is meant by *"sense"* or *"meaning,"* of *"ordering to an end,"* of *"conclusiveness"* in all the possible variations of these ideas, especially in connexion with the concept of *effect,* of "logical consequence," and (most especially) of knowing relations of "causality." It is these ideas which govern and explain the effect of the stimulus. It is by these means, and by these

means alone, that human action can be "understood."

We must now enter a little more closely into what is meant by "understanding" the action of other men.

Is this understanding a "physical" one, one nearly according to natural science, or, in more precise language, is it an understanding in the sense of the theory of the order of *nature* (without any regard to metaphysical questions)? Have I not myself emphasized on every occasion, that the realms of *my soul* and of *nature* are sharply separated realms, each with its own *quasi-independent mediate objectivity;* that natural concepts must not be mingled with psychological ones; and that in the present connexion, since we are dealing only with natural events as natural events, psychological concepts have only an analogical meaning?

These assertions and others like them certainly remain true; it is clearly true that psychologically I can only speak of *my* soul and of *its* becoming. And yet it may be said that human action as an event in nature can be understood with the aid of the phenomenological and psychological concepts which have been mentioned above if only we can succeed in forming concepts of *natural*

order by means of them. In this way physical understanding may be reached not by means of these concepts as such, but with their "aid," and that in the sense of a double *"as if."*

Nature behaves *as if* the mediate objects, which we construct in it on the basis of our immediate experience-contents, possessed in themselves independent being and becoming: so, at least, says the pure theory of order (and so, also, does Kant, if his basic idea of the "constitutive" is understood in its simplest form). [It is at this point that metaphysics comes in with independent mental construction of its own.]

My soul behaves likewise *as if* it were independent in its being and becoming. On the basis of my own immediate experience-contents, considered as experience-contents and nothing else, I construct, on the theory of order, the quasi-independent realm of my, and only my, *soul.*[1] In it such concepts as "determining tendency," "latent directing dispositions," "association," "perseverance," "will," "reflection," play the leading part. To it also belongs, as a "mental" characteristic, the original and immediate experience of concepts such as "ordering to an

[1] Cp. my *Ordnungslehre* (Jena, 1923). At a later point in the text we shall have occasion to consider the creation of the concept of *soul.*

end," "conclusiveness," and others like them. It is *as if my soul* acted in accordance with an ordering faculty. [The *"I"* does not itself act but only experiences what is ordered.]

By the aid of these concepts of the theory of soul I can now understand human action as a *natural* event in the following manner. To begin with I may only say that it is *as if* certain independent things acted or had the capacity for action: the totality thereof is called *nature*. Now these actions and capacities for actions, and with them the things of nature themselves, have to be characterized definitely on the basis of order. (1) In the realm of inanimate nature this is done by the aid of such concepts as those of force, energy, and the like, which are determinable (measurable) by size. (2) In biology in the narrower sense such further concepts as *morphogenetic potency, development,* and *entelechy,* have already become necessary; although these concepts are unsatisfactory because their particular characteristics are nothing but the particular characteristics of the natural events which they are meant to explain (as, indeed, is already the case for physics with the concept of "potential energy" and the notions related to it). (3) In so-called psychophysics, however, when we make a

determined effort to grasp it from the physical side, we find things easier just because we can here characterize the Physical "by the aid" of the Mental. The Mental does not indeed enter into nature in an immediate way. It only does so in a way which I may describe by saying: A certain physical thing, namely, man in action, behaves, as do all natural things, *as if* it were in itself independent in its "becoming," and this becoming is itself to be regarded *as if* it were controlled by laws which I find at work in my own soul. That which we here introduce into "nature" is not "soul" *qua* soul, but is a natural agent which acts *as if* it acted mentally, the whole taking place within the *as if* under which nature generally is itself presupposed.

In the sense of this double *as if* I may thus say, with Kant: [1] "that men think," and not only that souls think; and thus I "understand" human action. But I "understand" only within a double "as if" or *"quasi."* And one "as if" is merely of an analogical kind: for the natural factor known as man cannot be known in its essence, and we can only say that it acts *as if* it were associated with a *soul.*

[1] *Critique of Pure Reason,* trans. by F. Max Müller (London, 1881), ii. 312 (Division II, book II. chapter ii. Second Paralogism, towards the end).

To the proposition which we have established as a fact on the physical side, namely, that human action takes place according to the "criterion of the individuality of the correspondence between stimulus and effect,"—a proposition which it is difficult to express in "physical" terms—to this proposition belong, in a very general manner, all the phenomenological and psychological concepts which go to form the experience of the *logical,* in the widest sense of the word.

It is now instructive, though it offers nothing fundamentally new, to consider once again the particular cases, to which we devoted a special section above,[1] and to ask ourselves whether we can now add anything from a psychological point of view.

4. The time or place of an action can, as we saw, be determined by a stimulus of a particular kind: a "time and place command." This result might, as we agreed, also be accomplished in a machine by varying the strength of the stimulus. Yet such a variation of strength plays no part here.

Again, a general condition, such as the change of a story from direct to indirect speech, may condition the whole structure of an action.

[1] See pp. 74 sqq.

These illustrations are important, for they can be correlated to quite definite happenings in the mind, and they thus help us to understand the whole matter in greater detail. The happenings referred to are described by saying that the mind has a "definite task," or "determining tendency," or "latent directing disposition," in the different meanings of those words. I am to answer "at once," or I am ordered to give my whole reply in "indirect speech." The expression "determining tendency," as is well known, is used, as by Ach,[1] when the definite task is consciously apprehended or at least does to some extent enter consciousness; while the term "latent directing disposition" is used, by Koffka,[2] when, as is the case, for instance, with post-hypnotic time-commands or time-suggestions (*Terminsuggestionen*), the special instruction exists mentally only in the subconsciousness.

I have now finished my analysis of human action considered as a physical event: it refutes every kind of mechanistic theory in this particular department of biology (for such is the subject with which we are here concerned), and as it

[1] Narziss Ach, *Über den Willensakt und das Temperament* (Leipzig, 1910).

[2] K. Koffka, *Zur Analyse der Vorstellungen und ihrer Gesetze* (Leipzig, 1912).

denies a consequence of the orthodox parallelistic theory, it denies also that theory itself.

My analysis of human action has been preponderantly an analysis of that strange natural event —*speech*. For it is indeed one of the most essential characteristics of man as an acting natural being that he "converses" with his like, that he, psychologically speaking, hears and understands words and propositions, reflects, obeys commands, and replies. He can also read written and printed words and propositions, and can also give the reply in writing. Men, strange natural things that they are when considered as physical beings, even influence each other at a distance, either by means of air-waves of particular kinds, which one man starts with his organ of speech and another takes up with his ear, or by particular kinds of light-waves, which are sent out by him by means of signs and received by another with his eye. We have shown that the parallelistic theory can be refuted purely by means of an analysis of the behaviour of man in action as a natural being; for such an analysis refutes, in fact, a consequence of the orthodox parallelistic theory, the theory of biological mechanism, and accordingly refutes the parallelistic theory itself.

CHAPTER V

THE THEORY OF THE STRUCTURE OF THE MENTAL

WE have tried so far to examine the problem whether the events which are naïvely described as "mental," are of such a nature that they can be completely represented, even if only from "one side," by any mechanistic interpretation. We have recognized that this is not possible; that "the Mental" does not behave in such a way that the part played by it could be replaced by any mechanism of which we can form an idea. We saw this most clearly when we analysed the *action* of man as a physical whole, which we saw to proceed from stimulus to effect, and asked ourselves: "Can a machine accomplish what is here accomplished?" But it was also clear to us when we inquired into the "origin" of certain mental things, that we could not understand their essential nature from the physico-chemical point of view, nor by means of stimuli and brain-structure.

Our next step now will be to investigate the

essential natures of "the Physical" and of "the Mental," that is, to investigate what is meant by a physical and a mental "thing," if this word is rightly understood. What are the irreducible ultimates, the "elements," of physical and mental things? How many unanalysable kinds of ultimates are there in each group? And what for each group is the order or rule governing the combinations of the ultimates?

We shall begin with that which ought properly to come second: with the question of the form of order or rule governing the combinations of physical and mental things. By doing so, we assume it to be known that there are "combined" things (combinations) in both of the two great realms of empirical being, the realm of mental and that of natural reality, and we put off for the time being the question of what it is that is combined. My reason for thus considering first the problem that should properly come second, is that, so far as concerns the problem of parallelism, I am dealing here with what is already known and with what has been already stated by other thinkers; while I believe that I have something new, something not yet noted in connexion with parallelism, to say about the questions that are connected with the existence of

physical and of mental ultimates as such. For this reason, and since we are not writing a text-book, we may first deal with that which is already commonly agreed about the nature of the Mental and of the Physical, so far as it affects the problem of parallelism.

I. THE EGO-RELATION

No one who gave a moment's thought to it would deny that all mental things, all experience-contests, in short, everything "significant," or, more precisely, all *immediate objects,* are *my* objects, and that this *my*-ness can be expressly experienced for every object, though it does not need to be actually emphasized in every case in which I experience something. It was said by Kant that the *I think* must accompany all my ideas. I would replace the "I think" by the undetermined "I have," a term originated by Rehmke; but the Kantian proposition might well be retained if the "I think" and the words "idea" and "accompany" are properly understood.

We are here concerned with the immediate meaning of an original relation, namely, the original relation *I have consciously* or *I know.* We are not concerned with any detailed conclusions

that could be drawn from this relation and introduced into a structure of pure philosophy. We are only concerned with the fact that the "Ego-relation," as it may be briefly called, exists, and that all mental things are subject to it. It does not, properly speaking, "accompany" the mental things, but rather, it is, figuratively speaking, inextricably interwoven with them, but it must not be said to "contain" them, as it were, in a frame as physical things are "contained" in the framework of space.

Thus all mental things are related to a central point ("centred") and not to a "side-point," and this characteristic fundamentally distinguishes from each other the structural forms of the Mental and of the Physical. The expression "related to a central point" (*mittelpunktbezogen*) is naturally figurative and badly figurative; but how are we to express in language, which is itself modelled on natural reality, that which in its essential significance can only be "had consciously," or experienced? In fact, the difference between the physical and the mental complexes is greater than the difference expressed by the phrases "related to a central point" and "related to a side-point" (*nebenbezogen*) in the true and

original meaning of these words. And we have also to add the fact that everything mechanical takes place in homogeneous, convertible, natural time, while immediate mental "time," of which we shall have further occasion to speak, is constructed quite otherwise.

Not many words are needed to emphasize the great difficulty, to put it mildly, for the theory of psychophysical parallelism which is caused by the fact that there is so complete a difference between the most fundamental structural "framework" of the Physical and of the Mental. The ego-relationship is a part of all mental things, even of the most irreducible of our perceptual contents, such as the sensation of *red*. For this reason, and just because of this ego-relationship, it is even true to say that there are no genuinely "simple" mental things; for in the *I have something* both the *I* and the *something* only have a communicable sense because of their connexion by means of the *have*. And if the *opposite* is maintained, it can only be maintained if certain artificial assumptions about experience are first made, assumptions which may indeed lead us to the "constructions" of *"nature,"* "the *soul,"* and "the *absolute,"* but which, so long as we keep

to nothing but the primary experience itself, do not justify any such assertion.

II. "DIE AUFGIPFELUNG"

H. Schwartz[1] coined the word "*Aufgipfelung*" (culmination, convergence) for the purpose of characterizing a particularly important aspect of the structural form of mental things, and by so doing, as so often happens with a happy neologism, be brought out clearly what had previously been less distinctly recognized.

The problem is the problem of the relationship of the parts to the whole in complex mental things and how the whole "results" from the parts.

In this connexion we might allude in passing to certain arguments of Lotze concerning the employment of the word "resultant" in psychological contexts, but we prefer to present the discussion in our own words, and to unite in one independent argument the most important conclusions of both the thinkers whom we have named. We may the more be allowed to do so because Lotze's analysis of the concept "result-

[1] Hermann Schwartz, *Grundfragen der Weltanschauung* (2nd edition, Leipzig, 1912), p. 98.

ant" has quite a different purpose from that of the present investigation.[1]

If I know, in the science of mechanics, that a "force" is a *resultant* of other "forces," according to Newton's law of the parallelogram of forces, it does not follow that I know anything at all of the direction or size of the other earlier single forces which have gone to make it. The "resultant" force can "result" from an infinite number of groups of forces: and it is wholly impossible to know by inspection from which of them it has resulted. All the single combining, or more strictly, combined elements have entered into, been taken up by, and disappeared into the new force, which is determined by them in its size and direction without leaving behind them any trace of themselves. The new force is the *consequence*: but the "affirmation of consequents" does not carry with it the "affirmation of precedents" in the realm of natural becoming.

Now, it is said that mental things which are called "thoughts," "abstractions," "generalizations," and the like—those, that is, that are derived from many particular mental things, among others from perceptions—can be described as

[1] H. Lotze, *Metaphysik* (Leipzig, 1884), pp. 478 sqq. The question debated by Lotze is whether the experience of the ego can be a "resultant" or not.

"resulting." Let us look a little more closely into this mental "resulting."

I have, for instance, the mental thing, or thought-content, or significant experience, or (immediate) object, or whatever else one may choose to call it:

"The difference between the systems of Descartes and of Spinoza."

This is a conscious content or having of a very complex kind. It has "resulted" from a great mass of earlier significant contents of the most different kinds; if I had not experienced them I would not have been able to experience the new thought in all its own particularity. But have all the single combining elements disappeared, in the mechanical case, into the new "resulting" whole? Is this new whole in any sense merely a "consequence," to know which does not help us to know what has gone to make it? In a certain sense it is so, in so far, namely, as I am not able to bring back to my memory in detail each experience, with its quite specific time and place, that has matured into the *resultant:* "The difference between the systems, *etc.*" But, on the other hand, the parts have in no true sense at all disappeared into the whole to the extent of being completely unrecognizable. I have, to be

sure, the thought: "The difference between the systems, *etc.,*" as *one* significant "act." But nevertheless I have inextricably interwoven into the unity a variety of particulars, and out of this variety I can draw at any time what particulars, what resultant-producing particulars, I please. What I have can be called "an inextricably interwoven unity"—but there are no appropriate words with which to describe it, since languages were formed with a view to comprehending nature but not with a view to comprehending the mind. What is called "having" a thought with all its significant inflections, with all its accents of *ordered finality,* of *conclusiveness,* of the *temporal,* of *range,* is an immediate experience, and an immediate experience only, even though arising from a stimulus. I cannot crudely show, or demonstrate it as I can a natural object: there cannot be used in arguments about it any artificial aids to understanding like the diagrams of geometry or the letters and symbols of mathematics. This is the reason why it is so difficult to "convince" another in the psychological and phenomenological domain. It is difficult enough to express even what one means. And this state of affairs cannot be altered by experiments.

We may then say comprehensively: If the

term, "resulting," is to be used for activities both in the physical and in the mental realms, then at all events we must remember that the structure of the "resultants" in each of these two realms is of an entirely different kind.

The fundamental difference between the "structure" of mental and of physical things can also be stated without introducing the concept of "resultants." That this difference involves a serious difficulty for the parallelistic theory is so obvious as not to require further discussion.

In the case of mechanism we may say that all combinations of physical things rest on mass and direction, and that all differences in the combinations are due to variations in mass or direction. A similar general frame for combinations, in which two characteristics (like mass and direction) are variables, is not forthcoming for the combination of mental things. The thought-content: "The difference between the systems of Descartes and of Spinoza," is not distinguished from the thought-content expressed by the formula $\frac{\sqrt{ax^2 - bx}}{dx}$ by any differences in constant variables contained, as it were, in the same space. It altogether lacks, indeed, anything like a frame or room, for, as we

know, the Ego-relation is not one, and the oft-heard expression consciousness-"content" is in this connexion thoroughly misleading.

We can here cut short the present division of our argument. The following, which is at the same time the last section of our analysis will show that what we have here been speaking about, namely, the "structure" of mental things as contrasted with the structure of physical things, is a part of a wider subject, in the discussion of which it will be included. This subject is of such a fundamental and vital importance for the problem of parallelism that we may well regard the discussions in the previous parts of this book as merely preparatory or introductory to the considerations that will now emerge.

III. THE DEGREE OF MANIFOLDNESS OF THE MENTAL COMPARED WITH THAT OF THE PHYSICAL

1. THE CONCEPT "DEGREE OF MANIFOLDNESS"

We must now examine "the Mental" and "the Physical" in regard to their *degree of manifoldness.*

By the *manifoldness* of something I understand its "content," in so far as it can be analysed into *ultimates* or elements, that is, into

parts that cannot be further divided. The meaning of these ultimates themselves cannot properly be circumscribed or "defined," but their nature can only be recognized or "intuitively perceived," as Husserl would say. The *degree* of manifoldness of a particular thing is determined by the number of ultimates that are necessary for its complete definition, that is, by the number of its ultimate characteristics. With regard to their degree of manifoldness any two particular things can each be either equal to, poorer, or richer than the other.[1]

All natural and mental things are mediately constructed from immediate elements; they are mediate objects. There is, however, a clear meaning, also, in speaking of the degree of manifoldness of mediate objects as such, although the construction of their manifoldness is always an immediate mental act. Thus when we talk of "things," in the widest sense of the word, the degree of their manifoldness means the number of their ultimate qualities, their powers of entering into relations being included in the word "qualities."

Thus the concepts, "equilateral triangle" and "square," although they are different, are equal

[1] For further details see my *Ordnungslehre* (Jena, 1923).

in degree of manifoldness. But the concept, "equilateral triangle" is poorer in manifoldness than the concept, "this particular irregular triangle," for I require a greater number of elements in order to characterize the latter. Similarly among physical things, a billiard ball is poorer in manifoldness than an inkpot.

We said then that we intended to examine "the Mental" and "the Physical" in their manifoldness. This expression, obviously, means that we have to try to find the highest possible degree of the manifoldness of the whole of the "things" in the one and in the other realm. In other words, we have to ask: "By means of how many ultimate concepts are the whole of physical things and the whole of mental things capable of being characterized? Or is it possible, at least, to decide whether the one requires more ultimate elements for its characterization than does the other?" And, in fact, the reply to this question will prove to be of quite extraordinary importance for the solving of the parallelistic problem.

2. THE MANIFOLDNESS OF THE PHYSICAL

We begin the inquiry by considering the Physical from the point of view of a completed theory of nature as understood mechan-

ically; that is, we will place ourselves *ex hypothesi* on the basis of parallelism, which does not recognize in nature anything more than spatial things and spatial events.

Mechanism acts with elements and with activities between elements. It follows that the degree of manifoldness of the Physical, mechanically understood, will be ascertained when we know the kinds of elements, the number of separate elements of each kind, and the different kinds of activities of the elements in relation to each other or in relation to any given system of co-ordinates.

On the basis of contemporary physics and chemistry, in their modern highly developed form, we find at most three kinds of elements: positive electrons, negative electrons, and ether. Perhaps ether can be struck out. And, indeed, the hope is entertained that we may finally need only one single kind of element by itself in the sense of Newtonian physics. For the present, then, we will assume that there are three kinds of elements, although this assumption sins badly against the law of "economy" in making hypotheses.[1]

Nothing is known about the number of the

[1] For further details of the "theory of matter," see my *Ordnungslehre* (Jena, 1923).

separate elements of each kind—whether infinite or not. For our present purpose, however, as will be clear from the discussion itself, the question of the number of separate elements is meaningless.

The Newtonian theory of matter recognized only two ultimate forms of action between the elements, impact and gravitation. Weber's electrodynamical theory added to these the fact that the speed of a moving element has a measurable influence on the mode of its action on other elements. The most recent theories recognize as ultimate modes of action, at most, the mode of action which is expressed in Maxwell's equations, Newtonian gravitation, and impact; the first of these three perhaps may finally be the only one needed.

Thus the physical world, from a mechanistic point of view, if we only take into consideration the various kinds of things and forms of action, is very poor in manifoldness. To be sure there exists also in it the innumerable spatial arrangements of elements. These arrangements condition the manifoldness of things in space, which is present to everyday experience. We shall have to return to this later.

By considering the subjects in another way,

what has been said concerning the manifoldness of the Physical may now be somewhat simplified. By using the concept of *capacity,* the characterization of the manifoldness of physical things may be defined by reference to the various ultimate kinds of action.

As was already clearly recognized by Leibnitz, everything that is in any sense "substance," that is to say, everything that "persists," within the realm of nature, must be characterized. Its character is called its *essence.*[1] It is this particular essence, indeed, that persists; for what we have before us is not an empty "something." Put otherwise: it is the persistence of a property which makes us call a thing *persistent* ("substance"). In the same way the physical modes of action of an ultimate kind can be attributed as "capacities" of an ultimate kind to the other characteristics of the original things or elements. The manifoldness of the Physical is thus characterized by means of the number of elements of perhaps only one kind, and at most of three kinds, to be found in a given division of space. In the Newtonian sense, that is to say, in the sense of a thorough-going "mechanism," the es-

[1] Leibnitz, *Monadology,* viii.

sence of the one "kind" of element would be: mobility, having such-and-such a size, complete incompressibility, ability to cause an impact, ability to receive an impact, attractiveness according to the Newtonian, and perhaps also to Weber's, law. These persistent properties would always exist side by side; their combination in a thing would form the essence of that thing.

Thus it is seen that, if spatial distribution is disregarded, physical things are not rich in degree of manifoldness. Quite a few concepts are enough to characterize a physical thing. For all single physical things consist of the same elements, which are of few kinds, perhaps only of one kind, and the great apparent manifoldness of physical things is due, from the point of view of mechanism, to the fact that the elements are spatially connected in different and very various ways. Granted the distribution of the elements in space, physical things only exist by reason of the "capacities" of their ultimate elements. Such is the view of the mechanistic theory of matter.

3. THE MANIFOLDNESS OF THE MENTAL

As we pass on to examine the degree of manifoldness of "the Mental," we must remind our-

selves above all what the object is for which our inquiry is being conducted. It is this object, in fact, that will first make it clear what will be the subject of our closer investigation.

(*a*) *The Concept "the Mental"*

As we are testing the theory of psychophysical parallelism in order to ascertain its truth or falseness, particular regard must be had to what is meant by "mental" (*psycho,* in the word "*psycho*physical"). This meaning, as we shall see at once without difficulty, is a fairly narrow one, and it is at the same time the original and the most natural meaning of the word "mental" or "psychical." We have already briefly touched upon this point,[1] which now calls for a more extended examination.

"Mental," in the sense of the parallelistic theory, is the content, the immediate object, the "mental" thing, *as I have had it consciously,* and anything "mental," in any theoretical sense of "mental," must be left out of it. The whole of my conscious contents or havings (*bewussten Gehabtheiten*)—to use an unusual term, which, however, is appropriate just because it is colourless—and indeed, this whole in the sense of a

[1] See above, pp. 34 and 35.

purely temporal[1] sequence, the existence of which I assume because of my memory, this it is which we have now to analyse, and this it is which parallelism has got to "explain" in its own manner as a *sequence* and as a *conscious content* or having. Parallelism is, certainly, entitled as much as other theories to make use of the category of unconscious "psychical" events, but it must never put aside the "psychical" in the conscious sense. To do so would be tantamount to "solving" a "problem" by putting it aside before making any attempt to find a solution.

It is very important indeed to keep these facts clearly before us; if we fail to do so we are overlooking the essence of the problem.

The conscious contents as *conscious* contents or havings are thus the object of our inquiry. And we must not, as has been said, put aside the real object of our inquiry before our inquiry has begun; but putting aside the object of the inquiry before it has begun is, in fact, just what all those are guilty of who say at this point that the elementary conscious contents, so far as they

[1] This is not an internally connected sequence! The internal connexion of the sequence is not at all due, as is well known (see *Ordnungslehre*), to the sequence itself, but to the creation of the concept "my mind," of which we shall have to speak later.

are contents or havings, do not "properly" exist at all. What does exist, they argue, in the sense of psychological existence, is nothing but very simple ultimates, and these are unconscious. The "I" does not know them, nor does it know and understand how there has been built up out of them that which it does know and have consciously. Scientific psychology, as a theory of becoming, may of course create any "theory" and form any hypotheses for itself which it may require; and these hypotheses in the same way may posit the "unconscious" as a mediate object of a particular sphere. But the only use of such hypotheses is to explain that which is immediate content of consciousness. For that, and that only, is the subject of our inquiry! Which is the very question whether that which is consciously experienced *as it is* permits the "parallelization" with mechanism. Any other procedure here would be dogmatism, that is, the adoption of a belief without sufficient ground, and, indeed, dogmatism of the worst kind, so that it could certainly lay no claim to consideration by scientific psychology and philosophy. For all we know, however, our examination of the nature of conscious content, as an examination into "the subject matter itself," may, in fact, lead to the con-

struction of a theory analogical to the physical theory of matter. If so, well and good. But, for all we know, that examination may lead to something quite different. If so, it must also be "well and good." Parallelism, however, must be made to face the issue, it must not dodge the question whether that which is consciously had, *as consciously had,* really *just as it is* can be parallelized with the Mechanical.

Now, for the solving of this problem the discussion of the *degree of manifoldness* of the Mental and of the Physical is of particular importance. Analysis may really lead to only a few kinds of mental elements, just as the theory of matter in the realm of physics has done. Such results could very well be made to serve as a support of parallelism, although even then the law of mental consequence might not perhaps allow of mechanical "parallels." But the unprejudiced thinker must also be prepared for the possibility that not only may he not gain a support for parallelism from the discussion of the question of manifoldness of the Mental, but even that he may meet a final refutation of it.

The question to which we are seeking a reply is, then, as follows: "What is the essential nature of our direct conscious content, particularly with

regard to the degree of their manifoldness?" and we have not to start with any bias in favour of a view of the nature of the Mental which would justify parallelism or treat as "mental" anything which is not a consciously had content.

(*b*) *The Degree of Manifoldness of the Mental*

It is very usual to call all contents which are consciously had, "ideas"; but this word is misleading, especially as it is connected with a definite psychological theory. The word, indeed, is used for any form of mental conscious content as well as merely for perceptions, and it can easily mislead. I shall, therefore, use the term, "object of experience," or more shortly, "conscious content" or "having." Our inquiry is concerned expressly with *my experience* of the "object," but not with the object as something opposed to the subject as in logic and mathematics. But if we reflect how many irreducible ultimates, or "elements," are to be found in the realm of objects as such, we see at once that a purely objective investigation is of great immediate psychological importance; for the number of the ultimate kinds of "mental content" cannot be determined except by reference to the known number of the ultimate kinds of objects, without, of course, im-

plying that "object of experience" and "object as such" are the same.

If we take the word "idea" in a stricter sense, then the affections of the senses are the irreducible ultimates or "elements" contained in all ideas. It is accordingly with the sense affection as objects, and, indeed, expressly as *my* objects, that we have first to occupy ourselves in our inquiry into the degree of manifoldness of the Mental. What we find here is a group of ultimate irreducible *pure qualities:* and this group is itself again divisible into sub-groups of qualities such as colours, tunes, *etc.* Let us first then consider such things as *red, green, warm, the key C sharp, sweet,* and innumerable others.

All these kinds of qualities, all these elementary ideas, are obviously not reducible into further elements and are distinguished from each other by difference of quality and not of degree or quantity.

This is a result of extraordinary importance for our comparison of the degree of manifoldness of the Mental with the degree of manifoldness of the Physical. At the very outset we have before us something fundamental. We therefore think it is unnecessary to go into details here, for we can see at the first glance that the manifold-

ness of the Mental is, in one respect at any rate, greater than that of the Physical. Certainly, this is true of what one may call "kinds of mental elements" for there are not at most three of these, as in the Physical, but at least six or seven groups of kinds, each with many sub-groups.

We do not yet wish to draw any conclusion from this important fact, but prefer to leave the question open in order to find out first whether or not the "fewer" in one direction may not be offset by a "more" in another direction. So we will at once go on to inquire what other elements of conscious physical "being," apart from sense affections, are to be found in the realm of the Mental. We have seen already that for this purpose we must bring before our mind the ultimate kind of "objects," since each of these corresponds to an ultimate kind of conscious experience, and, indeed, corresponds to it so strictly that for the sake of brevity the one kind of these ultimates may stand for the other without any further explanation.

We have, to begin with, as something that at all events still has some resemblance to sense contents, the elementary mental object *"near";* and then we have the experience of *"before"* or of *"earlier than,"* which can attach to combined ob-

jects as a kind of accent or inflection. Then we have the elementary experiences *pleasure* and *discomfort*. It is useless for our purpose to go into further details in regard to all these things and to enter upon the discussion of points which might be controversial.

We find further groups of ultimate conscious content in the mental field when we turn to the complex experience, *"thought"*—which is perhaps at bottom that which is really actualized in experience,[1] if it is true that every conscious content may properly be described as "thought."

We find, then, in the experience, *thought,* a great mass of significant *accents,* which have all a relation to the strange meaning, *order*. There are accents of *finality* with regard to order, such as, *this, such, the other, related, different, so many, more, the whole,* etc. There are also accents of conclusiveness, denoting that something is already "in order." And there are accents of *belonging to a sphere,* to indicate that

[1] Cp. my *Die Logik als Aufgabe* (Tübingen, 1913), p. 68. *Every* conscious content has component parts that are not "perceptual"; "red," for instance, has *this, such, irreducible* (ultimate, "elementary"), *known,* etc. Any one who likes to use the term "judgement" may say: every conscious content is an (implicit) judgement. Cp. *Ordnungslehre* (Jena, 1923), *Wissen und Denken* (Leipzig, 1922), pp. 29–30, and *The Crisis in Psychology* (Princeton, 1925).

one experience-content is "perceived," another "dreamed," another "theatrical," another a "natural reality," another "metaphysical." And these accents or inflexions are quite definitely *conscious* contents in an immediate way, just as is "green" or "square"; they are not inferred concepts of purely theoretical psychology, as is the concept of knowledge as a *disposition* [1] (of the mind). The fact (which is, I believe, generally true) that they cannot be experienced without concrete elements to bear them, as it were, does not rob them of their phenomenological particularity and elementary nature. The nature of the "bearers" is quite indifferent to them; such a bearer is generally a casually experienced word or even letter.[2]

I have the less need to go further into the matter in this place, as I have already discussed elsewhere the kinds of the most significant accents.[3] And, moreover, we are only concerned here with

[1] Karl Marbe (*Experimentell-psychologische Untersuchungen über das Urteil* [Leipzig, 1901], pp. 55 sqq., and *Fortschritte der Psychologie* [Leipzig, 1914], iii. 4, 32, 34, etc.) is quite right when he says that knowledge as a disposition has never been in the consciousness. Cp. also G. E. Müller, *Zur Analyse der Gedächtnistätigkeit und der Vorstellungsverlaufes* (1911–17), iii. p. 129.

[2] See my *Die Logik als Aufgabe* (Tübingen, 1913), pp. 20–2, and *The Crisis in Psychology* (Princeton, 1925).

[3] In my *Die Logik als Aufgabe*, pp. 37–60.

the fact that, phenomenologically, there is a great mass of such accents, that these accents *can* be experienced, and that they *are* conscious-content.

All these accents, in their variety, are new, as opposed to the "near" or "there" which qualify sense affections, and yet they are irreducible ultimates. We are referring to what is described in popular language as *"a priori,"* "evidence," "truth," "rightness," and the like; but we are trying to get hold of separately that which *is* properly, but dealt with phenomenologically.

It may be said that it is the *connexions* between experience-contents which we are trying to understand; but they are, at all events, relations of the most various kinds, and are not only distinguished from each other by their *strength* ("quantity"). And they are also not relations of such a kind that they can be regarded as "capacities," or persistent properties, of the kinds of things between which they exist, as is the case with the modes of action between the physical elements. It is nonsense to say of *yellow* that it has the "relative" property of being different in various degrees and senses from *red,* or *C sharp,* or *warm,* and that it *has* a specific, highly complex "relation" to a picture by Titian

or to the physical thing "lion." Moreover, in the physical realm spatial relations cannot be changed in any intelligible manner into "properties" of the elements. And in the mental realm, as we have now seen, there is a very much greater wealth of kinds of relations, of which it is also true to say that they cannot be turned into properties of the mental elements.

4. THE COMPARISON OF THE DEGREES OF MANIFOLDNESS AS A REFUTATION IN PRINCIPLE OF THE ORTHODOX THEORY OF PARALLELISM

We now reach the important conclusions, to attain which we have made this short excursus into the most immediate sphere of knowledge, that is, into the theory of objects or phenomenology. We have now to compare the degree of manifoldness of the Physical with the degree of manifoldness of the Mental, and to apply the results of this comparison to the problem of psychophysical parallelism.

The comparison is not difficult: The *physical* thing consists, at all events, of very few elements, and perhaps of only one; the *mental* "thing" comprises a large number of different kinds of psychical "elements." And, besides, we see that in the physical all relations between the elements,

apart from their capacity for action, consist of variations of the relation *near;* among the psychical elements, on the other hand, there exists a great variety of different kinds of relations, and relations not only of meaning, but also of the kinds of connexion.

How then, can the mental thing find its "parallel representative" in the realm of physical things? Such a representative, and with it psychomechanical parallelism, seems to be quite impossible. For it is a logical contradiction to assume that two things, one of which is of quite a different degree and kind of manifoldness than the other, can be "ultimately" the same—and such is the teaching of parallelism. It is thus unthinkable that a given condition of the brain, which is in fact a given material thing, is "on the other side" a mental thing, that is, a given mental experience-content.

Parallelism has been always aware of its weakness, and has therefore mostly remained in a region of undefined generalities. When it does become more defined it is by means of so-called analogies. For instance, the Mental and the Physical are said to correspond to each other as a sphere looked at from outside, that is, convexly, corresponds to the same sphere looked at

from inside, that is, concavely. But, in fact, there exists in both these cases the property of the "spherical" in a specific geometrical sense. The facts really require that (to retain the simile), the sphere seen concavely should appear "on the other side" as an irregular heptagon—and if this were the case "parallelism" would indeed be difficult to understand.

Thus, *ordo et connexio rerum* can *not* be *idem ac ordo et connexio idearum,* because the structure of the particular *res* is wholly different from the structure of the particular *idea,* in every respect, and most especially with regard to the degree of manifoldness.

5. A DIFFICULTY REMOVED

An observant reader might at this point suggest a difficulty that at first sight appears to invalidate the conclusion we have drawn from the comparison of the Physical and the Mental. There exists, it will be said, among the physical elements, an infinite variety of the particular *relations* of situation in space. The degree of variety in the realm of the mechanical is thus infinitely great notwithstanding the few kinds of elements: there are circular relations, and triangular, and square, and parabolic; and,

stereometrically, there are all the innumerable three-dimensional relations which are investigated by mathematical science. What more, it may be asked, is wanted? Do we not possess, in spite of our assertion, as abundant a "degree" of physical, that is, mechanical, manifoldness as is required for parallelism, even though the structure of the two manifoldnesses in question may be different?

At the first glance the objection seems formidable. But at the same time it is false. And the realization that this, the only posssible objection, fails on closer examination, is a particularly important link in the chain of our arguments against the theory of psychomechanical parallelism, which is generally so lightly accepted.

This objection—that because of its great wealth in particular spatial relations, notwithstanding the few kinds of its physical elements, the Physical is as manifold as the Mental—does not save the parallelistic theory for the following reason. It overlooks the fact that the abundance of particular physical spatial relations of which it speaks has, in fact, its detailed counterpart in the Mental, and thus cannot be the physical counterpart for the manifoldness of the Mental in general. The abundance of the physical

spatial relations is, in fact, in other words, related already to a special part of the Mental's particular manifoldness, although, as we will show, not in a "parallelistic" sense. If, thus, this variety of spatial relations in the Physical is properly the one form in which its manifoldness is expressed, its counterpart in the Mental is just one kind only of mental manifoldness, a special form of the expression of its manifoldness.

We may argue the point as follows:

Among the ultimates of my experience-content,—thus, among the mental elements,—is the content *"near."* But it is not there merely as "near," but as a part of particular impressions of the most manifold kind, indeed, exactly of as many particular impressions as there are particular impressions of *near* in the realm of the Physical. For, in fact, I "have" as conscious content, triangular, and square, and round, and parabolic things. But—and now comes the important point—the variety of the relations of spatiality in the Physical is already "related" or appropriated to a certain particular, but only to a *certain* particular, side of the Mental—in other words, the kinds and varieties of manifoldness which exist in the Physical in the sphere of the *near* and in spatial relations generally, exist

also in the realm of the Mental. But in the Mental, as we have seen, there exist further and quite different varieties, and therefore a quite different degree of manifoldness—and it is for this reason that the variety of spatial manifoldness in mechanics cannot exhaustively represent the variety of mental manifoldness, as is maintained by the orthodox theory of psychophysical parallelism.

In this connexion another objection may be brought forward. It may be said: Experience-contents of a spatial kind agree only with the spatial relations of the *extra*-corporal physical things, while parallelism maintains that correspondence exists between experiences and spatial relations which are physical but *intra*-corporal, namely, present in the brain; and *these* spatial relations have not in any sense already been "related" or appropriated to any mental particulars.

It is not difficult to show that this objection also cannot save parallelism: We have, in fact, shown quite *generally* that *the* Physical, that is, *any* physical thing, quite apart from its wholly different structure, possesses a much more restricted degree of manifoldness than *the* Mental, that is, than *any* psychical thing. And, as we

know, the spatial-manifold enters into the manifoldness of both realms of things, except that it corresponds to the *whole* of the manifoldness of the Physical but only to a *part* of that of the Mental. What sense is there, then, in saying that in spite of this, quite different forms of manifoldness of the Mental can be "parallel" to intra-corporal, cerebral, physical manifoldness? Physical, including "intra-corporal," spatiality is already correlated to our psychical experience of spatiality; for this group of mental experiences has had allocated to it its own physical "correlates." It might indeed be true that this allocation exists in the brain; that is: I can at least suppose,—I do not say that it is so,—that my seeing of a square or sphere "corresponds" to a physical existence in the brain of a square or spherical disposition. But I can *not* see at all how other kinds of manifoldness of the Mental can find their "parallels" in cerebral spatialities. How can the significant experience-content "$\sqrt{2}$" be "parallelized" in spatial cerebral manifoldness, for cerebral manifoldness in the sense of parallelism is only spatial? Perhaps by means of a square disposition of elements in the brain, which then produce a root of the value of $\sqrt{2}$? But even such a physical disposition of the brain

would be the "correlate" of my "seeing a square with its root," and thus would not be the correlate of the general significance $\sqrt{2}$.

Thus the results of an analysis of the manifoldness of Nature, interpreted in terms of mechanics, and of the conscious contents of the mind, and a comparison of the results of such an analysis as regards the degree of manifoldness in the two realms of the Physical and the Mental, completely and finally shatter and destroy the parallelistic theory of the relation between them.

CHAPTER VI

THE GENERAL MEANING OF THE "CANON OF THE CORRESPONDENCE OF THE DEGREES OF MANIFOLDNESS": AN INTERCALARY INVESTIGATION

I. GENERALITIES

THE canon of the *degree of manifoldness* of an immediate or mediate object, which has played a leading part in this inquiry, has already been of fundamental importance in my theory, set out elsewhere,[1] of the four possible original forms of natural becoming, and also in my proofs of an inductive metaphysic.[2]

In the theory of natural becoming and in the metaphysic, this concept does not arise by itself; it is much more closely connected there with the canon of "logical consequence," understood as a pure canon of order, applicable to immediate objects. The use made of the canon of the "degree of manifoldness" in my theory of becoming and in my metaphysics depends upon the truth

[1] *Ordnungslehre* (Jena, 1923).
[2] *Wirklichkeitslehre* (Leipzig, 1922).

that *consequences* can never be richer in manifoldness than their *grounds.* Expressed in different words: by the method of "analogy" to "logical consequence" certain very important aspects of the theory of becoming and of the metaphysic are discussed: certain relations which, although different, are in a certain respect of the same kind as the relation of some pure logical consequence.

When it is used in an inquiry into the truth of the parallelistic theory, the canon of the *degree of manifoldness* is used without relation to the concept of consequence, but is connected with the concept of *the same,* or of *identity,* and this concept of *the-sameness* is considered as applicable to mediately constructed objects and not to immediate objects and postulates.

"Identity" can only be predicated of two different structures if the two structures possess *at least* the same degree of manifoldness. But the Physical and the Mental are not characterized by structures of the same degree of manifoldness, and therefore *ordo et connexio rerum* is not *idem ac ordo et connexio idearum;* and this argument is independent of the difference in the type of structure of the *res* and of the *ideae.*

It is worth while noting that this *canon of the*

correspondence of the degrees of manifoldness supplies us with a final argument not only against the parallelistic theory in the sphere of psychophysics, but also in other spheres of philosophical reflection and can be used in every case in which it is maintained that one thing is ultimately "the same" as some other thing. And this statement, that two things or relations are "ultimately the same," is in fact made in many connexions.

II. FIRST EXAMPLE: "MECHANISM AND TELEOLOGY"

In the first place, let us take the relation between "mechanism" and "universal teleology." It can be shown [1] that it is quite impossible for the one to be *the same* as the other, "viewed from the other side"; that is, there can either be no *mechanism* in the proper sense of the word or no *wholeness* ("universal teleology"). This fact, however, proves nothing with regard to the problem that I have named the "monism of order," this question being one that calls for a special investigation, which would very probably lead to "dualism."

[1] *Wirklichkeitslehre* (Leipzig, 1922).

III. SECOND EXAMPLE: "CAUSALITY AND FREEDOM"

Another example, a very famous one, which can only be decided by applying the test of the *canon of the correspondence of the degree of manifoldness,* is the Kantian theory of the "possibility of a causality through freedom, in harmony with the universal law of natural necessity," [1] where, by "freedom" we mean *complete undeterminism.*[2]

Things which are free in themselves are said by Kant to appear to us, and only to be known by us, as determined by uniform causality. Shortly stated, *the same* identical thing is said to possess on "two different sides" two completely different structures. For instance, the action of men is said to be wholly determined by that which happens to them in time, and yet to be "properly" free; and this determinism is not an

[1] *Critique of Pure Reason,* trans. by F. Max Müller (London, 1881), ii. 446 (Division II., book II. chapter ii. section 9, part. iii).

[2] Most generally, it is true, "free" stands in Kant for nothing but "necessarily" following from intelligible character as a "persistent condition." In that case there is, of course, no contradiction. Kant is not in this connexion clear and uniform in his statements. For further details see my "Skizzen zur Kantauffassung und Kantkritik," *Kantstudien* (Berlin, 1917), xxii. 114 sqq. and *Das Problem der Freiheit* (Berlin, 1920).

illusion but is a true fact under the law of causality, which applies universally to the realm of "appearance," and is expressly said not to be an illusion.

This strange theory is disproved, in our opinion, by the fact that it is impossible for *the same* identical thing to be characterized on one side by an A and on the other side by its exact opposite.

Either: "freedom" exists in reality, in which case it must "appear" as such, and so far as it exists the desire of logic for determinism cannot be fulfilled in experience; *or:* thoroughgoing determinism exists in appearance and in reality.[1] I have elsewhere demonstrated that a positive decision of this problem is impossible.[2]

Apart from theories which I have discussed in my previous books on the forms of natural "becoming" and of certain aspects of metaphysics, we have now seen the importance of the canon of the *degree of manifoldness* for analytical philosophical investigation in three examples, one of which is the main subject of the present book. It is a canon which is of fundamental and

[1] Cp. Geo. Simmel, *Kant* (Leipzig, 1904), p. 145.

[2] In my *Wirklichkeitslehre* (Leipzig, 1922). See also *The Crisis in Psychology* (Princeton, 1925).

decisive importance for the problem of psychophysical parallelism, for the problems connected with the concepts of mechanism and teleology, and for the problem of the relation of freedom to necessity.

In each of these cases, this canon prevents the union of that which ought not really to be united, and forces us to decide either: "Here are two things which are not the same," or: "Here is the one and not the other." The first of these answers is reached in the problem of parallelism, the second in the problem of teleology versus mechanism and of freedom versus determinism.

And still further fields of philosophical thought can be found in which the canon of the *degree of manifoldness* is very fruitful.

IV. THIRD EXAMPLE: "THE CONFLICT OF DUTIES"

Let me take what is known in ethics as the "conflict of duties." Generally, practical ethics—so far as it is a theory of duties, and it is mainly that—is based on immediate, strongly felt experience, and cannot lay claim to any "universal applicability," in the common sense of that term. If such an ethics asks itself what the experience of the feeling of duty, or more generally what "conscience" means, then it can offer further the

conjecture that the existence of the feeling of duty or conscience is the mark or sign for the rôle which the individual plays in the as yet incomplete development of a non-spatial supra-personal whole.[1] If we knew the whole, ethics may say, then we could more clearly grasp the content of the at present rather undefined meaning of the feeling of "duty." At present it is not known; but we may at least say conjecturally—on the assumption of the existence of an order in the world, for without such an assumption the idea of duty is meaningless—that *an* unknown goal of supra-personal becoming is at stake, and that if I only knew that goal, then "duty," would be uniformly determined in every instant for every single human existence. There should, therefore, properly be no "conflict" of duties; and such a conflict where it exists must always be regarded as something temporary, as due to lack of knowledge, and never as an ultimate, as if the facts could require that I should "properly" perform at the same time two actions contradictory to each other. Where there are practical "conflicts" of an ethical kind in immediate

[1] *Ordnungslehre* (Jena, 1923); *Wirklichkeitslehre* (Leipzig, 1922).

personal experience, it will generally be found, if we are honest, that at bottom there is not really an "ethical" conflict at all, but rather a conflict between something ethical and something unethical, between real duty and instinctive egotism. However this egotism may be veiled, and whatever the name may be given to it, it is at best only excusable; it never reaches the real ethical command. It can, therefore, never condition a proper "ethical" conflict, not even when the issues are not clearly seen. We have granted that where the issues are not clearly seen there may exist an ethical conflict simply because the issues are not known.

Our inability to grant more than this, or that, in the last resort, an "ethical" conflict can exist, is based on the canon of the correspondence of the degrees of manifoldness: The whole to which morality is related is one: and one is not two, if the "two" are opposed to each other in any essential point.

The reader can work out for himself in detail to what extent Kant's so-called theory of antinomies collapses on being tested with the canon of the correspondence of the degrees of manifoldness, though this theory can be refuted on

other grounds also.[1] We have already proved it, briefly at least, for the antinomy of freedom.

V. CONCLUSION

In conclusion of the whole discussion we desire to state again very clearly the *canon of the correspondence of the degrees of manifoldness* and to add a few amplifications:

Two different objects of mediate construction can only be characterized as *the same* if they possess an equal degree of manifoldness, so that every part of the one object exactly corresponds to a part of the other.

By "characterization" is meant a complete characterization so that all the elements of the object are taken into account.

A particular, and particularly important, case of non-correspondence between two degrees of manifoldness exists when the one object possesses given parts, perhaps of a relative kind, which are found not to exist in the other object, without the latter having, as a possible equivalent, parts which are not possessed by the former. It is thus impossible, for instance, that

[1] *Ordnungslehre* (Jena, 1923).

what is seen from "one side" as determined should be seen from the other side as undetermined, as "free." It is impossible that what is seen from "one side" to be rich in qualities should be seen from the other side to be poor in qualities, and the more so if the quantitative wealth of the other side has already its "parallels" within the range of a single quality of the former.

Thus:

(*a*) The mechanism of nature in the narrower sense of the term is not *the same* as the life of the mind;

(*b*) Mechanism as mechanism cannot be united with universal teleology;

(*c*) Necessary determinism cannot be united with metaphysical freedom;

(*d*) At a given moment one action cannot be as "ethical" as another.

But rather:

(*a'*) The mechanical side of Nature is something fundamentally different from the "psyche";

(*b'*) Wholesomeness is something fundamentally different from mechanism, even though both exist side by side;

(c') Determinism contradicts freedom, and the problem of the existence of freedom may be insoluble;

(d') Only one action is "ethical" at a given moment.

SECOND PART

THE BODY, THE MIND, AND THEIR RELATION

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THE BODY, THE MIND, AND THEIR RELATION

THE proof that the theory of psycho-physical parallelism is impossible is a conclusion of a purely negative kind; it would be quite erroneous to suppose because the theory of orthodox parallelism is false that the theory commonly known as that of "psycho-physical interaction" must be true. It is obvious that if orthodox parallelism is false something else must be true, but that something else is not necessarily the theory of "interaction," at least not in the form in which it is put forward by nearly all its defenders; for in that form it is a logical absurdity, as will be shown in a moment.

In order that we may contribute something more than a mere negation to the problem of "body and mind," we desire to begin by establishing what it is we understand, separately, by "body" and by "mind," and we will afterwards, when we have done so, bring these two conceptions together again.

CHAPTER I

THE BODY

I. MY BODY

MY body is above all a *natural* thing like any other natural thing, that is, as can here only be stated without detailed reasoning,[1] a certain something which is *mine,* mine by reason of immediate conscious data, called "perceptions," and a thing which behaves *as if* it were independent in itself in its being and becoming. If I call my immediate data of consciousness "immediate objects," then I must call my body, like all natural things, a mediate object of mental "construction."

To be sure, I "denote" or objectify my own body by the mediation of a greater number of immediate data of consciousness than any other natural body, and also than any other "human body." For my body is denoted or objectified as

[1] For further details see my *Ordnungslehre* (Jena, 1923); *Die Logik als Aufgabe* (Tübingen, 1913), pp. 27 sqq.; *Wirklichkeitslehre* (Leipzig, 1923); *Wissen und Denken* (Leipzig, 1922), pp. 40–1; *The Crisis in Psychology* (Princeton, 1925).

my body, first, on the basis of all so-called "bodily sensations," and secondly, on the basis of all the other data which we are about to enumerate.

Let us reverse the discussion and ask, not on what data I objectify my body as a mediate object, but rather what particular properties are possessed by my body so objectified. If we do so we may make the following list of the most essential peculiarities by which my body is distinguished from all other natural bodies as well as from all other human bodies in particular:

1. Only *my* body gives me bodily feelings of all kinds and upon occasion feelings of pain.

2. Only *my* body gives me, when its surface is touched, sensations of contact with "spatial points" which are distinct and at the same time combined with each other in a whole.

3. Only the stimulation of the sense organs of *my* body gives me "sense affections."

4. Only *my* body moves in consequence of the will-contents which I experience.

5. It is on the closing against the outer world of the eyes and ears of *my* body only that perceptible nature disappears for me.

These are certainly all strange things, and there are still others that can be added to them.

Next, we must consider my body from the point of view of a pure theory of nature, and from this point of view it is simply an "organic body" like any other, without regard to the immediate data of consciousness on the basis of which it has, in fact, become *my* body.

Regarded from the point of view of a theory of nature, my body is a material system not of a mechanical but rather autonomous, or so-called "vitalistic," type of behaviour. It has originated by means of antonomous processes,[1] such as heredity from its ancestors and embryonic development, and it also shows in its own behaviour, considered purely as a natural body, a non-mechanical autonomy, as has been shown in the chapter on action in the present book.

The autonomous, non-mechanical, natural activity which is essential for the processes of life we have named *entelechy*. So far as this enters into the movements of a human body which are described as "actions," we will give it the special name of *"psychoid."* My body therefore is governed in its movements by the action of a *psychoid*.

[1] *The Science and Philosophy of the Organism* (London, 1908), i.

II. NON-MECHANICAL MECHANICAL INTERACTION

I have so exhaustively discussed elsewhere without using psychological concepts the subject of the manner in which something non-mechanical can be conceived, from the point of view purely of natural science, as entering into mechanical nature, that it is not necessary for me here to deal closely with this most fundamental problem, a problem which unfortunately has not yet been sufficiently grasped in all its importance. My discussion of this topic was exhaustive, both from the point of view of a pure natural science [1] and from that of a pure logic or theory of order.[2]

I have also discussed elsewhere in a very detailed manner the particular relations between the brain on the one hand and the psychoid on the other. The brain is necessary for action in the realm of nature; its structure in the different

[1] *The Science and Philosophy of the Organism,* ii. 176 sqq. (2nd German edition, *Philosophie des Organischen* [Leipzig, 1921], pp. 432 sqq.). Cp. also the brief exposition in *The Problem of Individuality* (London, 1914), pp. 34–40. Also *Logische Studien über Entwickelung* (Heidelberg 1918–9), ii. 16 sqq.; *Der Begriff der organischen Form* (Berlin, 1919), pp. 57 sqq.

[2] *Ordnungslehre* (Jena, 1923); *The Problem of Individuality,* pp. 41 sqq.

groups of animals conditions particular forms and degrees of action; and cerebral defects condition generally, though not always, specific defects in action.

But the physico-chemical condition of the brain at any given moment is not the complete and only cause for that which happens to and by means of it, but is only a partial one;[1] and this is the case although the brain as a material thing possesses at every given moment its specific physico-chemical, or, briefly, its definite mechanical character.

That this mechanical character as such does not in fact correspond as "the other side" to a state of conscious content, was the essential part of the last result obtained in the first part of the present book. Indeed, it may be said on this point: It is conceivable that a great expert might know in its completeness the whole of the material condition of the brain at a given moment, but it does not follow, according to our theory, that he would find on the "other side" at the same moment a correlated condition of conscious content. Further, according to our theory, no kind of "action" would result from such a given

[1] *The Science and Philosophy of the Organism,* ii. 89 sqq. (2nd German edition, *Philosophie des Organischen,* pp. 362 sqq.).

momentary material condition of the brain by itself; rather nothing but chaotic ruin;[1] for the natural existence and activity of a living organism is only sustained by the guidance of its *entelechy*. However, these considerations pertain to the theory of vitalism.

[1] *The Science and Philosophy of the Organism,* ii. 258 (2nd German edition, *Philosophie des Organischen,* p. 513); we are, of course, speaking here in a morphogenetical sense, but the meaning is the same. See also my "Ueber die Bestimmtheit und die Voraussagbarkeit des Naturwerdens," *Logos* (Tübingen, 1913), iv. 62 sqq.

CHAPTER II

DERIVATION OF THE CONCEPT, "MY MIND"

I. CONSCIOUS ACTIVITY AND ITS CONTENT

WE have shown, so far as it is necessary for our purpose, what it is we understand by the term, "my body." We proceed to a more difficult question: the meaning of the term, "my mind," and whether it can have any clear meaning at all.

We desire to build up, to "construct," the concept, "my mind," from its very beginnings, and indeed, from the beginnings of all philosophy.

At the beginning of all philosophy stands the primary fact, the only completely indubitable one among all "facts":

I have consciously something ordered

or,

I know something (ordered).

Logic is concerned with the *something* in so far as it is ordered, and psychology in so far as it is a *conscious content.* Psychology is indeed

often described as the "theory of the laws of the coming and going of the contents of consciousness," by which is meant that psychology has to investigate the laws of the sequence of my conscious contents. Thus psychology is concerned with the conscious content *qua* contained (had), and with the whole variety of such contents in the time series.

But it is by no means clear without further explanation what is here meant by *happening, sequence,* and *time.*

First, it is clear that my conscious contents *as* had by me are the material for all psychology, and the inquiry into their essential nature is therefore all-important. This work which is preliminary to psychology proper, is called nowadays "phenomenology." [1]

That part of phenomenology, which may be named the "theory of elements," has been worked out in the first part of this book, in the section devoted to the analysis of the degree of manifoldness in "the Mental." It was there shown what irreducibles are found within the range of my conscious content.

As we are not writing a complete psychology we can only say briefly that the "theory of ele-

[1] Cp. *The Crisis in Psychology* (Princeton, 1925).

ments" should be followed by a "theory of complexes." For the elements are never separate conscious contents as elements but only exist in complexes, and the nature of these complexes has therefore to be determined. Thus we find perceptions, representations, memory-images, feelings, thoughts, will-contents; and, as all of these are only distinguished from each other by varieties in the relations of their elements, it may be said that at bottom there is only one type of complex, namely, "thought." For even the things most directly perceived consciously are never free from some indirect colouring; and abstract thought, on the other hand, always has some admixture of direct perception in it. This matter may be followed up in greater detail elsewhere.[1]

II. MY SELF

We have thus provided the materials of psychology. But do these materials by themselves build up the whole of psychology? That is the view of many of the psychomechanical parallelists; for them there is no mental action but only mental being. But, since we have destroyed orthodox parallelism of every kind, we need some-

[1] In my *Die Logik als Aufgabe* (Tübingen, 1913), and *The Crisis in Psychology* (Princeton, 1925).

thing more: we have to construct on the basis of the materials a theory of the laws of their coming and going as things which are conscious content.

So far "the Mental" has been treated as that which we now call "the materials," that is, the conscious content *qua* consciously had by the Ego. We must now considerably expand the concept of the "psychic," if this word may be used. I want to try to show what is involved in treating "psychology" as an independent science of the laws of mental becoming, and what is implied in the concept of a psychology so understood. This inquiry will help us to characterize the concept of "the Mental."

But our undertaking is not a very simple matter. Let us consider this:

I have a conscious content—we have seen that this proposition stands at the beginning of all philosophy.

Now, many of my conscious contents bear in themselves an inflexion or an accent which means *before*. In such a case I say that I "remember." As is well understood, *I have* "now" a memory-image means to me that I *had* something "before." Indeed, the "now" first becomes *now* in relation to the *before*. The simple "having" or

act of consciousness as such is unrelated to time.

The accent of *before* can be called an accent of *time;* it is the only form in which "time" becomes immediately a conscious content; all else connected with time is of a very complex scheme of order, as is to be shown.

The inflexions of *before* are very specific and distinguished from each other by means of a definite relation which exists between them: the relation *earlier-later.* Indeed, they are ordered in a series by means of this relation, which is the *time* series in its first form (not yet completed "time").

If I *have* a conscious content with an accent of *before,* I say that I *had* it "before." But is the "I" who *had* it the same as the "I" of the primary fact "I have a conscious content," which simply *has?* Obviously not. The "I" who *had* is indeed itself *had* by the simply *having* "I," while the simply having "I" is had by nothing but itself and for that reason, alone of all that "is," is no "concept."

Let us use different words for what is different, and henceforth call the "I" who "had" *my self. I* thus posit *my self* as that which "has" the "had."

My self is now obviously correlated to the

series of points of *before* with their relation of *earlier-later*: and it stands fixed within the series as that which has the had (i. e., the past experience) and it is distinguished as a particular something which "has the had" according to the contents of its past experience. It is thus a different something at each point of its experience.

We now posit "continuous" time, "continuous" being used in the sense in which it is used in mathematics,[1] transforming the series of *befores* with the relation of *earlier-later*. In other words, the first form of the time series.

In this way we have obtained what is briefly called *time*. The series of *befores* was discontinuous; *time* is continuous.

I ought to mention at this point the phenomenologically important question whether the "befores" are really "points" in the analogical sense of the word. I have hitherto, in my discussions of this subject, strongly emphasized the "point" character of conscious having and also of the accents of before; and this I did in order to exclude every suggestion of action on the part of the Ego, of which no trace can be found. Time differentials can very well exist in conscious content without implying such action.

1 *Ordnungslehre* (Jena, 1923).

The simple act of *having* of the simple *I* now seems to me to have nothing whatever to do with time, and thus to be neither in the "time"-point nor in the "time"-differential. A having in the *now,* as has already been said, comes into being only when it enters into relation with a *before.* Thus the question is properly, first: are the acts of having of the *self* (and therewith, to be sure, though secondarily, the act of having of the *I*) of the nature of a point or a differential in regard to time? And I think the right answer to this question is that: finitely extended in regard to time they certainly are not, that is, such things as stretches of time are not, like the spatial *near,* experienced immediately as qualities are experienced. But the acts of having must have some relation to time, in the sense of stretches of time, for otherwise continuous time could not be constructed on their basis so as to possess a meaning; and therefore I say: the acts of having are time-differentials.

III. MY MIND

We return to the concept of continuous time. The *self* stands in it, but as something discontinuous in a continuity; it does not necessarily become continuous itself, simply because it is

comprised within a framework of relations which is continuous.

How can psychology explain this? How can it explain the way in which the contents of the self change in time? How can such change be understood by the help of concepts which are of such proved worth for the theory of nature, as those of *becoming* and *causality?* [1]

If I had had my self immediate as a conscious content *qua* doing and becoming, as I have my self *qua* ego, then all would be simple; for then the connexion between any two conscious contents would itself be contained in the act of consciousness. But there is no question of that: I have the contents of *becoming* and *acting,* but I do not have them as my self either "becoming or acting."

Thus the moments of having by the self, with their contents, stand discretely and discontinuously in the series of time. No "stream" of experience is immediately given, but rather something like a sequence of electrical sparks; although, to be sure, as need not here be shown at length, the expression "sequence of sparks" is a bad image; for the having in the now bears in itself in a fixed form everything previously had;

[1] Cp. *Ordnungslehre* (Jena, 1923).

—for one accent of "before" rests upon the one before it as does one skin on another:—for in the realm of the "had" the present and the past permeate each other for consciousness—and words were never made to express the inexpressible process which we here have before us (Bergson's *durée*). And to this must be added the long breaks caused in the consciousness of the self by dreamless sleep.

What can I do, then, in order to make psychology possible as a science? or, more strictly, to bring it within the general theory of order? What, in spite of all this, can I recognize as pertaining to order in the acts of having of the self?

I see that *my self* in its discontinuous existence in continuous time has a continuous basis, and I name this *my mind.*

We have thus progressed from the I, by way way of *my self,* to *my mind.*

My mind is thus *my self* regarded as continuous. Or, otherwise, it is *my self* completed by unconscious (but not physical!) being and having.

But what takes place in the mind? For *in it* there is *becoming* and *activity.* But how do these processes operate?

THE CONCEPT, "MY MIND"

Here we approach the question of the possible forms of psychology.[1]

The first of these possible forms we can describe as a pure psychology of consciousness, or, according to an hypothesis employed by it, as the "theory of traces." This theory rejects altogether the concept of a "mind," and recognizes psychologically only that which we call the materials of psychology, namely, the discontinuous sequences of the experiences of the conscious self and I. All connexion between the discontinuities is upon this view physically completed by means of processes in the brain; indeed, the conscious experiences themselves are "epiphenomenal" and are parallel correlates of cerebral conditions. This doctrine is thus at bottom a variation of psychomechanical parallelism, and has therefore been finally refuted with the latter in the first part of this book.

The second *a priori* possible form of psychology is the pure association psychology; this, in fact, is a pure psychology and not, so far as it is theory, nothing but psychophysics: it recognizes the unconscious-psychical. But the mind is for it only a very general unconscious frame

[1] Cp. my *The Crisis in Psychology* (Princeton, 1925).

without closer characterization, "in" which psychical happening takes place. Within this frame are "ideas," in the widest sense of the word, in an unconscious state which are treated as quite like things: they originally entered into the frame by means of sense-perceptions. Between these quasi-mental things, there is now supposed to take place an interplay of activity, analogous to that in mechanics, governed by the laws of so-called association by contiguity. During the course of this interplay the mental things lead each other out of the unconscious into the conscious state. This theory, literally interpreted, is a theory of psychology without any psychological interconnexion, and is very seldom put forward in its complete purity. Practically all the arguments that we have used against orthodox parallelism apply also against this theory.

There remains, finally, the theory of the *organized* mind. The mind is like an unconscious,[1] unperceivable, and intangible organism with its own immanent law of activity. It is conserver [2] ("memory") and orderer. The concepts

[1] The expression "unconscious" is only intended to convey that the *mind* is not the same as the *I;* the question whether there is a metaphysical correlate of the I is not discussed here.

[2] Here arises the concept of the "mental trace," which, originating from Beneke, has lately been reintroduced by Erich Becher

production, reproduction, association, constellation, determining tendency, duty, latent disposition and other concepts of the newer theory of the mind, play here their rôle. They are all concepts of psychological theory, and do not describe immediately experienced phenomenological, or, if any one prefers that term, "mental," that is, consciously-had, states.[1] Everything remains very vague and undefined, since a spatial description is inapplicable, and as we are only able to grasp clearly the details of a system of becoming and of activity if it is spatial. It is for this reason that it is only in mechanics, and not

("Über physiologische und psychistiche Gedächtnishypothesen," *Archiv für die gesammte Psychologie* [Leipzig, 1916], xxxv. 125) under the name of the "mental residuum." Among others, he puts forward the propositions (p. 137): "One should recollect that we do not properly discover the loss or residua but only the cessation of their reproducibility"; "We have only to make comprehensible how cerebral disturbances can damage or stop the reproducibility of residua." For that, and for that only, is a "corresponding cerebral excitation necessary."

[1] Robert Reininger (*Das psycho-physische Problem* [Vienna, 1916], likewise separates very sharply the immediately "mental" and the "psychological," and it is of the same distinction that Koffka (*Zur Analyse der Vorstellungen und ihrer Gesetze* [Leipzig, 1912]) thinks when he speaks of concepts of "description" and of "function." Reininger's theories are in some respects related to my own: according to him there can be only a "negative psychology" of the I (op. cit., p. 78), and he holds the method of psychology to be not "descriptive" but "circumscriptive" (p. 221).

even in biology, that we are able to discover the most ultimate details.

What, then, "is" the *mind?* It is a particular realm of being, which we "construct" or "denote" as a *mediate* object, and which behaves *as if* it were independent in itself. The whole of the method of characterizing being which we set out at page 83 sqq. as applicable to what is called *nature,* applies also to the realm of being called *my mind.* And every something "in" the mind, to speak metaphorically, as, for instances, a given determining tendency, or, to speak quite generally, the mind's "unconscious" activity and becoming and capacities, is to be understood to have just the same reality and meaning as we attribute to any given natural object.

But *mind* and *nature* are wholly disparate realms of being. There can exist no becoming and activity between them.

At this point we shall proceed to obtain very significant results, and, indeed, to establish a "psychophysical parallelism" of our own.

CHAPTER III

THE TRUE "PARALLELISM"

OUR analysis of the nature of "the Mental" proved that every form of mechanical parallelization was impossible. We again emphasize that in the first part of this book we treated the Mental merely as conscious contents (havings), and that we used this aspect of it exclusively.

This is not to say that we should have been wholly disinclined to allow the existence of an "unconscious." On the contrary, we also have postulated Non-consciousness as an existent mediate object, and indeed not only in the physical realm of *nature,* but also in the particular realm of being, which we call *my mind.* But we postulate *the mind,* and not a jumbled mass of mental things called "unconscious ideas." We may then speak of the unconscious mind as having unconscious ideas; but it *has,* in fact, much else besides these unconscious ideas. That we make these assumptions is quite simply due to

the fact that phenomenological facts, which introspection clearly reveals to us, make them necessary. Stated otherwise: Conscious life, with its contents, including all "meanings," which I consciously experience or "have," has got to be "explained," and it is such that it cannot be "explained" by means of the interplay of a mere heap or jumble.

But with "the mind," or better, *my mind,* so postulated we remain, as we have said, wholly in a particular realm of being, namely, that of the expressedly mental, or the psychological realm of being, as it is called by the science which studies it. In this realm considered by itself the problem of parallelism does not arise.

But now we introduce from other sources the concept of the realm of *nature.* We have it, and we know that "man in action" as a natural body, that *my body* as a natural body, plays a definite part in the becoming of nature. And out of this a strange situation arises. There arises in fact out of it, for us also, a kind of "parallelism," indeed, a real "psychophysical" parallelism, but not one in which the word "physical" means so much as "mechanical," or even only as "bodily" in the material sense. So far as I can see only Eduard von Hartmann has clearly seen the facts.

He states them in his own words;[1] but in what follows I will express what there is to say in my own terms.

I postulate my thinking and willing *mind* as active, although *I* do not experience thinking and willing as activities, but only *have* "thoughts." *Active* mind is thus, so long as I do not introduce metaphysics, a concept of order, or, more precisely, a concept limited to a particular sphere, just like nature. But *my mind* is assumed to be a realm of being in itself; and this assumption is merely that it, *qua* "mind," produces "unconsciously" that which I consciously experience as its results. Under no circumstances does it enter *as mind* into nature and its becoming. But now my body stands, as other human bodies do, within the becoming of nature, and indeed in a manner which cannot be expressed in mechanical terms. When I speak of *nature* I am compelled by the facts to say that *natural* factors of a particular kind, "vital" natural factors, are here at work.

Now, any further explanation which I may attempt will only have a meaning on metaphysical assumptions, which are beyond our present

[1] *Zeitschrift für Philosophie und philosophische Kritik,* cxxi., and elsewhere.

scope.[1] Without these assumptions the realms of *mind* and of *nature* remain separated, and whatever further questions may arise are of little significance. But I want to deal with significant questions, and so I also must proceed to "parallelization"; I also must speak of a something which has its "two sides," one physical and one mental. Indeed, if I want to be quite strict, I require three, and not merely two parallels.

In ordinary language, my conscious experience as one realm of being has got to be placed in some form of connected relation with the other realm of being called *nature*. Now, I construct on the one hand from my immediate conscious experience "my *mind*," as an "unconscious" realm of being by itself; and on the other hand, from the analysis of certain processes of nature as processes of "nature," namely, from the analysis of human actions and also of the actions of "my body," I construct non-mechanical natural processes and things. If now, to use the usual image, I desire to "parallelize" these two constructions, then I can only speak thus:

At any given moment my conscious content is derived from a *state* of my (unconscious) mind; but my mind, in so far as it produces conscious

[1] Cp. my *Wirklichkeitslehre* (Leipzig, 1922).

content for me, is metaphysically at the same time the same something which enters non-mechanically into nature as a natural factor called "entelechy" or "psychoid." It is in this, namely, that I allow my mind to be the same as a given natural thing of a non-mechanical kind, that lies the metaphysics of the present train of thought.

Briefly expressed with the aid of the customary symbol to express parallels, = , the facts are as follows:

This my stock of conscious content. =	This state of my mind as a particular sphere of being. =	This state of the becoming of my body's definitely non-mechanical natural factors.

Or still more briefly:

My having. =	This state of my psyche. =	This state of a "psychoid" as a natural factor.

There are here very real "parallels" in the usual figurative sense of the word. It is really true that these are different "sides." The reader, who has closely followed the reasoning which leads to the concepts *mind* and *nature,* will realize that there are three sides, and a reader who does not do more than distinguish simply con-

sciousness and non-consciousness must admit at any rate that there are two. But the conscious as such must not be naïvely allowed to enter into nature; if it is desired to allow "mental factors" to be nature-determining, then these can only be "unconscious mental factors," and from the scientific point of view they must be treated as non-mechanical, and imagined to possess certain positive, but never properly "psychological," characteristics. The glitter of the words "psychical" and "psychological" has produced a sad tangle here.

If we wish to discuss the details of the "parallelity" between the first two columns in the above table, at least the most essential details, we can show them best in the form of a further table, shown on the opposite page. In doing so, we take for granted as known the results on the one hand of "phenomenology," in so far as the first column is concerned, and on the other hand the chief results of psychology.

This table can be enlarged at pleasure.

There correspond then to each other:

Phenomenological	Psychological
1. I have consciously a thought.	My mind (actively) thinks.
2. I have consciously an experience of will.	My mind wills.
3. I have consciously a particular will-experience, e. g., "to solve a problem."	In my mind exists a determinate tendency.
4. I have consciously an "idea," e. g., regarding the solution of a problem.	In my mind exists a latent directing disposition.
5. I have consciously a something with the accent of *before.*	My mind is reproductive by virtue of its memory capacity.
6. I have consciously something with the sign of the relation *similar to* or *at the same time as.*	My mind is reproductive according to the schema of the so-called association by similarity or association by contact.
7. I have consciously a perception.	Into my mind entered a certain state which does not derive only from its own becoming.
8. I have consciously an experience of action with the sign of *I willed it.*	In my mind is a certain undescribable process towards an end.
No phenomenological intervention.	My mind has knowledge.

The last two parallels, (numbers 7 and 8) clearly make some statement necessary about the third form of parallelity—namely, the natural non-mechanical function which is parallel to the

function of "my mind." In the last case this non-mechanical something brings about an effect in material nature, and in the last but one it is itself affected by nature.

CHAPTER IV

THE PSYCHOPHYSICAL PERSON

HAVING established the true psychophysical "parallelism," namely, that between processes in *my mind,* processes in *my psychoid,* and my direct conscious experience, there are still a couple of significant concepts, which we have to justify. The discussion in the first part of this book [1] has made this easier.

We may briefly name the three parallel processes as a whole, "my animate body," or, "my immediate psychophysical person"; [2] although this "person" pertains logically to the two different realms of "mediate" spheres of being as well as to the realm of immediate experience, we must, if we are to introduce metaphysics at all, provide it with a metaphysical correlate. We may say: Actuality presents itself in the form of direct experience and in the form of two realms of empirical being derived or constructed

[1] See above, p. 83 sqq.
[2] *Wirklichkeitslehre* (Leipzig, 1922).

from direct experience. It "appears" in these three forms, of which the first is discontinuously experienced and the two others are assumed to be continuous. It is only by reaching this standpoint that most people will be satisfied. The logically obtained threefold parallelization will appear artificial to them, especially in its division of that which is assumed to be continuous into two parts, *psychoid* and *mind,* in each of which there is supposed to be a *becoming* corresponding to that in the other (no trace of which exists in the realm of direct experience).

Now there are many natural bodies, the laws of becoming of which are the same as, or similar to, those of my body, namely, "other men" and the animals. I must regard them *as if* a *mind* in them is parallel to a psychoid. This produces the result: *Other psychophysical persons.*

Thus "other" men are only to be understood by means of a double *as if:* first, their bodies, as are all natural objects, are taken *as if* they existed independently: and secondly, it is *as if* they had a *mind* parallel to the body.

Now we can speak, though in a fairly complicated sense, not only of "another" psychophysical individual, and thus also of "another" *mind,* but also of "another" *self,* or, briefly, of *you* as

a person *having conscious* content. But we do not wish to proceed further in this direction.

We may now briefly summarize the different phases of the derivation of the concept of the subject:

1. *I,* the simply conscious-content-having (person).

2. *My self,* the past-conscious-content-haver, of whose past-having *I* know.

3. *My mind,* the continuous "unconscious" basis of my self.

4. *My animate body* or *The immediate psychophysical person.*

5. Other psychophysical persons.

The second, third, fourth, and fifth of these statements refer to "concepts," namely, assumptions posited by the "I" that has them.

Only the first, *I,* is no concept, no assumption, no object, although it functions by itself having conscious content.

CHAPTER V

THE PROBLEM OF THE UNIFORMITY OF PSYCHOPHYSICAL CORRESPONDENCE

WE must now touch briefly on the important question whether there is not generally a uniform correspondence between a given physico-chemical state of the brain and a given state of the mind or, on the "other side," of the psychoid, although, as we have shown, there is no parallelism.

Indeed, many understand, inaccurately, by "parallelism" nothing but such a uniform correspondence. Brain and mind, they think, may be two somethings which are interrelated with each other in becoming and activity; or, at all events, to this specific state of the brain there corresponds a quite specific state of the mind, indicated by a specific state of my conscious experience.

But this form of parallelism also, which properly is no parallelism, at least in the original sense of the word, does not appear to us to be true, or only in a very restricted sense. It is cer-

tainly true that states of the brain, which derive from stimuli of the sense-organs and the sensory nerves, are uniformly related to mental states which are called sensations or direct perceptions, and this, without regard to the question whether the law of the "specific energy" of the sensory nerves or parts of the brain is accepted or not. But it is only with regard to quite direct and simple sensations and perceptions that there exists, as it appears to me, a uniform correspondence. These sensations and perceptions, moreover, never do arise in quite a pure form, but always mixed with accents of all possible kinds in a complex whole; and whatever may be the nature of this whole as an experience, it is certainly *not* in uniform relation with a particular state of the brain, but rather is determined jointly by the state of the brain and the state of the mind. For the mind has also its own states, resting on its own history. The doctrine of the non-existence of a uniform relation between states of the brain and states of the mind has been most forcibly put forward in recent times by Bergson [1] and, fol-

1 Bergson's body-mind theory (*Matter and Memory*, trans. by N. M. Paul and W. S. Palmer [London, 1911]) is put forward and argued in so original and compact a manner that it is difficult to relate details of it to details of other theories. His theory of the brain as a mere action-intermediary and his theory of

lowing him, by Carr,[1] and it appears to me possible to accept it without accepting in every detail the particular form given to it by Bergson.

Conversely, a specific motor state of the brain, that is, one which is ready to discharge itself in a specific movement, is not necessarily derived from only one specific state of the mind. The same motor state of the brain may be originated from a great variety of particular states of the mind.

Moreover, in the mechanical realm one and the same "resultant" can, as we know, originate from the most various forces. And the mind, or rather its natural correlate, the *psychoid,* is a "manifoldness" in itself, an "intensive manifoldness,[2] whose own motive power is indeed not itself mechanical, but discharges itself into mechanical nature.

"pure memory" are especially noteworthy (op. cit., Conclusion, pp. 222 sqq.). Cp. also Bergson's "Le paralogisme pyscho-physiologique," *Review de métaphysique et de morale* (Paris, 1904), xii. 895.

[1] H. Wildon Carr, "Why the Mind seems to be, and yet cannot be, produced by the Brain," *The Philosophical Review* (New York, 1914); ibid. "The Theory of Psycho-Physical Parallelism as a working Hypothesis in Psychology," *Proceedings of the Aristotelian Society,* 1910–11 (London, 1911), n.s. xi. 134–5.

[2] Concerning this concept, see *The Science and Philosophy of the Organism* (London, 1908), ii. 137 (2nd German edition, *Philosophie des Organischen* [Leipzig, 1921], p. 400).

The parallelity, *mind-psychoid,* as we may say comprehensively, manifests itself in matter, but not in material states, as if these completely pictured it; and it certainly does not manifest itself in any mechanical copy or representation.

CHAPTER VI

THE MIND AS A GIVEN MANIFOLDNESS

WE now return once more to "sensation" in its relation to physical happenings—to this essential crux of all psychophysics.

We have shown that true parallelism collapses when applied to pure feelings and sensations, because the contents thereof are richer in manifoldness than the physical which could in any sense be "parallel" with them. The perceptual elements differ among themselves in a truly "qualitative" manner, even within one and the same sense. The physical stimuli on the other hand, as, for instance, electromagnetic rays of various wave-lengths, as well as the states of the sense-organs produced by them, such as the photochemical reactions, differ among themselves in a mechanical sense only, as differences of movement or of ordering of the same very few

kinds of ultimate things.[1] It is in principle inconceivable that merely a greater or less amount of one of these few ultimates on the physical side could parallelistically determine the differences, for instance, between red and "g," or even between red and blue. Such a view is absurd.

But it is not absurd to admit correspondence, if we posit the relation of activity. The *mind,* or rather the *psychoid,* is assumed to be itself a manifold, although not in a spatial nor most certainly in a perceptual sense. Now if such a manifold is "encountered" by something in the stream of becoming and activity, its resulting activity is determined as much by its own essential nature as by that of the encounterer. This explains, in principle at least, if not in detail, how mere differences in quantity and of the spatial on the side of the cause can produce differences of quality on the side of the effect; for that which was encountered by the cause, the *mind,* with the

[1] The objection against our theory is occasionally raised that we cannot know what "the matter of everything real is" and what is "able to produce all"; and that perhaps it is much more than is expressed in any form of mechanism. Good; but, in fact, we *name* "material" only that which is expressed in mechanism, and can indeed show that any other traits or sides of the "matter of everything real," would not be something that could be represented exhaustively by merely describing movements and situations in space.

psychoid, brings with it its own internal arrangements or nature, and this nature produces qualitative differences in its reaction to merely quantitative or spatial differences of stimulus.

There is nothing fundamentally contradictory in this, as there was in the parallelistic attempt to interpret the relation between the physical stimulus and the mental "perception." *The canon of the correspondence* of equal degrees of manifoldness is now saved. For the *mind* (the psychoid) as a given *thing* brings with it its own manifoldness: "latent" component parts of this manifoldness are awakened—and these parts are so arranged that when awakened by a quantitative difference they themselves give a different qualitative reaction. This is quite another thing to saying that quantitative or spatial differences taken in themselves can be qualitatively different "on the other side."

Thus the analysis of the psychophysics of perception not only is destructive of a parallelism, but also supports the theory of mind as a given manifold—and that without dragging the "higher functions" of the mind into the discussion.

What is commonly called the "substantiality of the mind" does not follow without further

proof, even if the mind is "a given manifold." In my view "my mind" is in fact as "substantial" as any "mediate object" of *quasi*-independent existence which is presupposed in the theory of order: that is, it persists as *"the same"* for a given time according to its characteristics in each case. But I do not attempt in any sense to determine how long the "given period of time" is; nor do I either express any view concerning the "real" nature of the mind. That is quite unnecessary for my present purpose.[1] Nor, again, do we need for our present purpose to know in greater detail what "time" itself is ultimately. The problem of parallelism can be discussed without entering upon these things. And we have now finished our discussion of it.

We have done so without seeking to use any of the facts of abnormal psychology. Not even dreams and hypnosis have been mentioned nor have such concepts as dissociation of personality, sub- or co-consciousness entered into our discussion, not to mention the concepts of "psychical research." The use of facts from these sources [2]

[1] It is not at all necessary for our purpose to have an opinion concerning the question whether there are "many minds" in the sense of the ultimately real, or whether there is only "one" super-personal *νοῦς ποιητικός*. Mind is in any case a manifoldness in itself.

[1] Cp. my *The Crisis Psychology* (Princeton, 1925).

would have made our work much easier. But it seemed to be important to prove that even along the lines of normal psychology psychomechanical parallelism is, in fact, an untenable theory.

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